



[Key Business Benefits]

- 1 Fully managed and operator assisted conference calls
- 2 Participant identification during and post event
- 3 Fully branded welcome message and music on hold options
- 4 Live assistance for all attendees

Expertly managed Conference calls

ArkadinEvent delivers professional, fully managed audio conferences; ideal for both high profile, small gatherings and large audiences.

Each call is arranged according to your specific event requirements and managed by the Arkadin operator, following a pre-agreed format and script. Question and answer sessions are skilfully delivered to ensure a smooth flow to the meeting.

Live assistance is available to all meeting attendees and by utilising the customised welcome message you ensure that your Arkadin Audio Event extends your organisation's brand identity.

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Expertly managed conference calls



Concierge Service

- Events designed to meet your specific objectives
- Experienced, professional event managers delivering an end to end service
- Booking and management of additional services - interpreting, transcription, translation...
- Custom branding of event audio messages, music on hold
- Event recording and replay



First class events

- Polished delivery of event welcome and speaker introduction announcements
- Management of Q&A queue and call handling
- Pre-agreed script and running order
- Extends reach from an on-site audience to remote venues and participants



Tracking attendance and engagement

- Online audio console for monitoring attendance and assisting Q&A process
- Participant lists provided during and post event
- Engagement and interaction encouraged with polling via phone keypads
- Super secure access and easy identification of participants with personal PIN codes



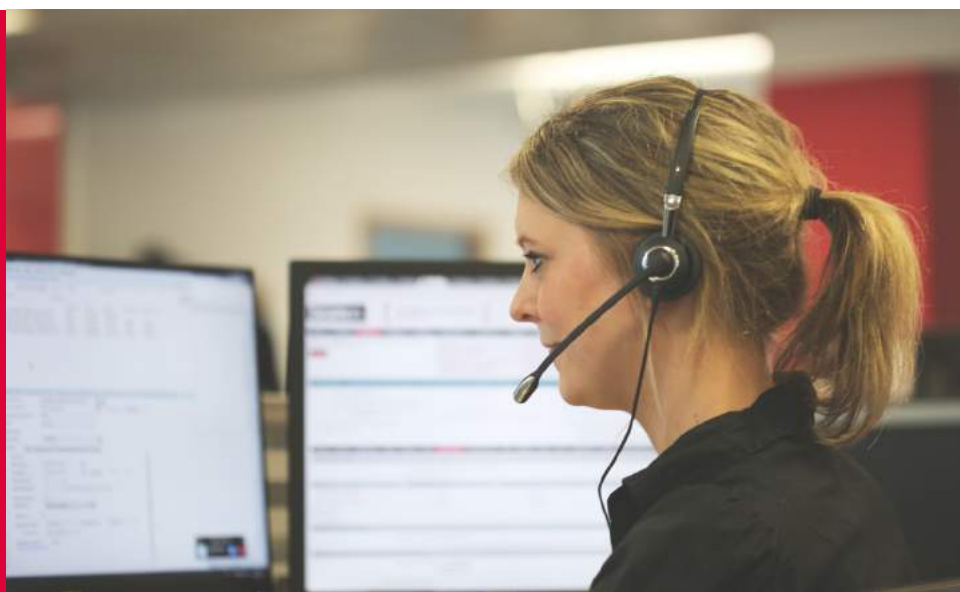
Speaker and audience assistance

- Separate communication line for speakers and organisers with event manager
- Online chat with event manager
- Live assistance for all attendees
- Meeting for speakers with event manager for line checks prior to starting event



"The meetings run like clockwork, unlike with our previous vendor where there were frequent glitches. Having Arkadin's live operator assistance gives us the assurance that any issues will be resolved instantly."

Ethel Watson,
HR Business Analyst, MAG Americas





[Key Business Benefits]

- 1 Complete, professionally managed video event service
- 2 Easily packaged as on demand streaming video content to extend life and ROI of event
- 3 No license purchase required
- 4 Live assistance for all attendees

Professional Video Events

ArkadinEvent provides a fully managed video conferencing service for connecting video room systems, speakers at their desks or two or more venues such as auditoriums and ball rooms, all with live video and audio interactivity.

The ArkadinEvent team evaluates venue connectivity, networks and in situ video conferencing hardware and carries out thorough testing to deliver a robust Video Event.

A Video Event can be combined with a webcast, so meetings with speakers based at several locations across the globe can be relayed to audiences of thousands to a solution which is increasingly used for enterprise webcasting including company town hall meetings.

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Professional Video Events



Concierge Service

- Events designed to meet your specific objectives
- Experienced, professional event managers delivering an end to end service
- Full monitoring process and remote site connectivity, with voice activation, multi-site display
- Booking and management of additional resources - AV crews, translators...
- Training and rehearsals



First class events

- Access from web browsers and mobile devices
- Video and sound production provided by professional video crew and sound engineers
- Recording video and slide presentations
- Option to combine with webcast platform to deliver custom webinars



Technical Expertise

- Monitoring and management of your video event from start to finish
- Video bridging - cloud based video connectivity for standard and high definition video calls
- Pre-event testing and site certification to ensure a quality connection
- Bridging of multiple IP sites or connection to a single remote participant



Extending ROI

- Hosting on demand streaming video content for catch-up viewing and social media sharing
- Connecting remote participants via desktops and meeting rooms across the globe to live event venues
- Reducing travel costs with remote connection of speakers and participants



"Arkadin had the full array of audio, video and multi-media solutions, plus experienced engineers and support technicians in South Africa as well as Ontario, Canada for pulling off our large general meeting. It was the complete package. For the first time we had every aspect of the event covered by one provider. "

Stephen Goodger,
ICT Lead - Operational Management, Hatch



[Key Business Benefits]

- 1 Complete, professionally managed webcast service
- 2 Easily packaged as on demand streaming video content to extend life and ROI of event
- 3 No license purchase required
- 4 Live assistance for all attendees

Professionally produced webinars

ArkadinEvent delivers high quality, professional events using the world's leading webcast technologies.

Each event is developed around your objectives and budget. Webcast formats are dictated by your requirements, with popular options including presenter audio and a slide presentation or a streaming video of the speaker and synchronised slides. The webinar environment is fully customisable to heighten brand awareness with your logo and corporate branding applied to all event pages including registration, lobby, email communications and user console.

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A complete webcast service



Concierge Service

- Events designed to meet your specific objectives
- Experienced, professional event managers delivering an end to end service
- Booking and management of additional resources - AV crews, translators...
- Custom branding of event environment
- Training and rehearsals



First class events

- Professional, polished delivery of online presentations
- Delivery of slides, speaker biographies, chat, documents, images, video of speakers, website content and more
- Consultancy and solutions to reduce internal bandwidth requirements
- Extending reach of on-site events to remote venues/participants



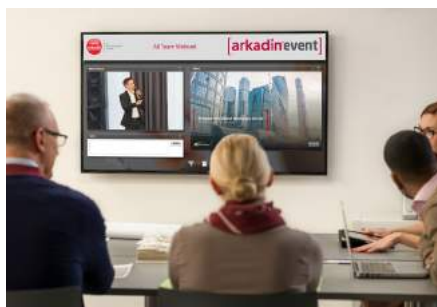
Driving attendance and engagement

- Automatically generated confirmation and reminder emails
- No download required
- Audio connection via phone, internet or both
- Live and on demand access from web browsers and mobile devices
- Engagement and interaction tools: survey, polling and chat



Measuring and extending ROI

- Live and post-event reporting and analytics
- Downloadable analytical graphs and data to demonstrate ROI and Engagement scores
- On demand replay for catch-up viewing and social media sharing
- CRM integration to maximise tracking and lead generation analysis and sourcing



"The Society Talk viewer experience has been significantly enhanced since moving to ArkadinWebcast. The platform is extremely reliable and it allows us to create a much more engaging and dynamic program that our staff responds well to."

Amy Hadsock,
Director, Org. Communications, American Cancer Society



Webcast

[Enjoy work, enjoy life, enjoy sharing]



[Key Business Benefits]

- 1 Professional web conferencing management service
- 2 Easily packaged as on demand content to extend life and ROI of event
- 3 No license purchase required
- 4 Live assistance for all attendees

Fully managed web conferences

ArkadinEvent Web Event is the perfect solution for delivering presentations to a large or influential audience. Fully integrated with our high-quality audio conferencing, your presentation is delivered online and over the phone, supported by slides, documents, application-sharing and even whiteboards.

Web events have the flexibility to cater for larger audiences while offering enhanced, two way interaction between speakers and attendees; all managed by ArkadinEvent. The ArkadinEvent team looks after the technology, offers rehearsals before and management throughout the event, so speakers and organisers can focus on the content not the meeting logistics!

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Managed web conferencing



Concierge Service

- Events designed to meet your specific objectives
- Experienced, professional event managers delivering an end to end service
- Booking and management of additional resources - AV crews, translators...
- Custom branding of event environment
- Training and rehearsals



First class events

- Professional, polished web conferencing
- Delivery of slides, documents, images, webcam video of speakers
- Online event landing, registration and launch pages



Driving attendance and engagement

- Automatically generated confirmation and reminder emails
- No download required
- Audio connection via phone, internet or both
- Access from web browsers and mobile devices



Measuring and extending ROI

- Live and post-event reporting and analytics
- On demand replay as streaming video content for catch-up viewing and social media sharing
- Integration of event into lead generation workflow



"We wanted someone we could trust, someone who made it simple and someone who made it happen.... it was a really good option to come to Arkadin. To make something like this as simple as possible for a customer is absolutely what I'm looking for."

Nick West,
Learning and Development Specialist,
Old Mutual Wealth



Kollective Software Defined Enterprise Delivery Network

arkadin
COLLABORATION SERVICES
an NTT Communications Company

Best Delivery and Highest Quality Video for All

Video is one of the most powerful forms of communication, and one that is increasingly used by leading global companies. Today, many companies count on video to help engage their distributed workforce. These companies invest time and effort in creating high quality video content from executive updates to HR initiatives, and everything in between.

While high quality content is important in facilitating employee engagement, it is only one part of the equation. The other part is the viewing experience. If the content is engaging, but the viewing experience is poor, or if the content cannot reach its fully intended audience, then the communications objectives of the video will fail. In order to create a truly engaging experience, your video delivery method needs to ensure high quality video delivery across the entire enterprise.



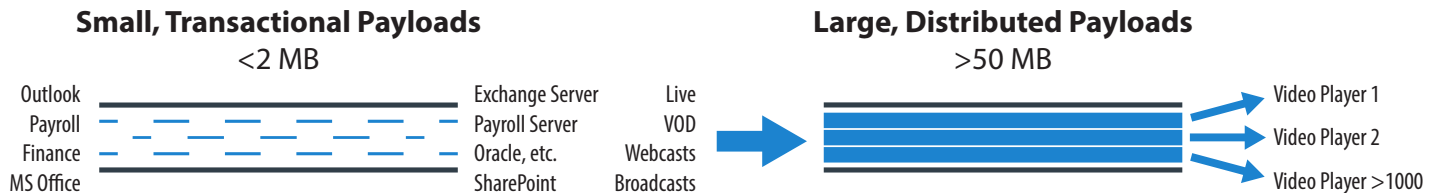
Credits: Gareth Senior, Deputy CIO, NHS England - UC Expo 2016

Kollective Software Defined Enterprise Content Delivery Network (SD ECDN) enables high quality holistic video communication with global reach that is secure, reliable, and network friendly. Kollective SD ECDN helps dispersed organizations reach everyone across the enterprise with video, no matter where they are. Companies using Kollective SD ECDN benefit from 100% reach of high quality video delivery across the enterprise.

And, Kollective's cloud-based solution works in conjunction with your existing network infrastructure, so you don't have to spend money and time on costly network upgrades. With over 3 million end points deployed and over 15 years' experience, the world's largest and most demanding enterprises trust Kollective for all their video delivery needs.

Demand for Video and the Impact on the Corporate Network

As corporations increasingly turn to video to foster alignment in their organizations and the appetite for video in the social enterprise accelerates, businesses must examine their own capabilities and determine how best to meet these needs. With this growing demand for video, many companies are finding that their corporate networks can't handle the data upsurge. Large data files are becoming a larger component of network traffic, driven primarily by increased demand for video. This shift has created major challenges for corporate networks, which are generally not designed to handle these large, distributed payloads. The result is an overburdened network, or a crisis of capacity. When this happens, the business is negatively impacted, as business-critical traffic can't get through, and/or the video experience suffers.



Video Delivery Solved™

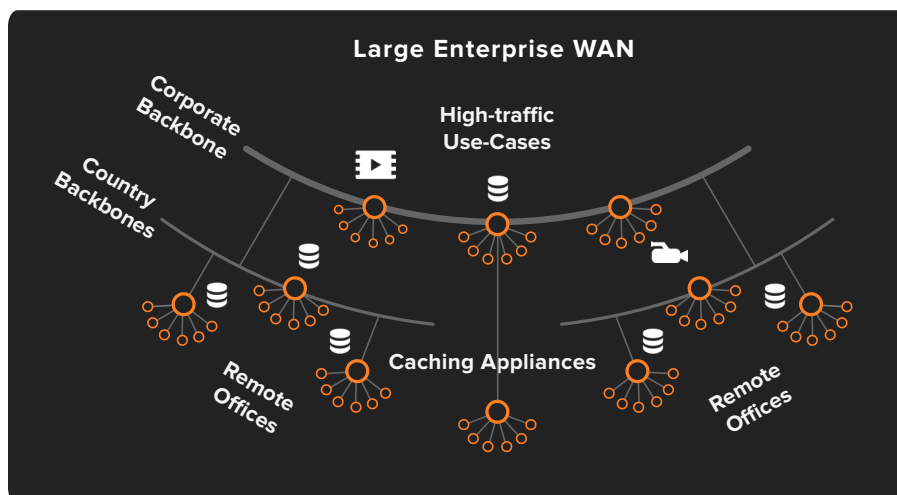
Kollective SD ECDN was specifically built to address this crisis of capacity. Kollective delivers any type of large file, but is specifically optimized for large video files, both live and on demand, providing efficient delivery regardless of network topology or bandwidth constraints. Kollective's robust SD ECDN is able to overcome network challenges such as significant packet loss and latency to provide a consistently high quality viewing experience.

There are three important elements that enable Kollective SD ECDN to efficiently distribute large volumes of high-quality video through your existing infrastructure:

- **Peer-assisted Software Delivery**
- **Topology Awareness**
- **Differential Delivery Protocol**

Peer-assisted Software Delivery

With Kollective's patented peer-assisted delivery model, every agent acts as a server. Instead of each agent needing to get data exclusively from central servers, endpoints using Kollective SD ECDN get their video from another agent that is physically closer than the central server. This dramatically improves the utilization of your existing networks as the burden moves from the Wide Area Network (WAN), where the central servers are, to the Local Area Network (LAN), which results in less congestion in your network.



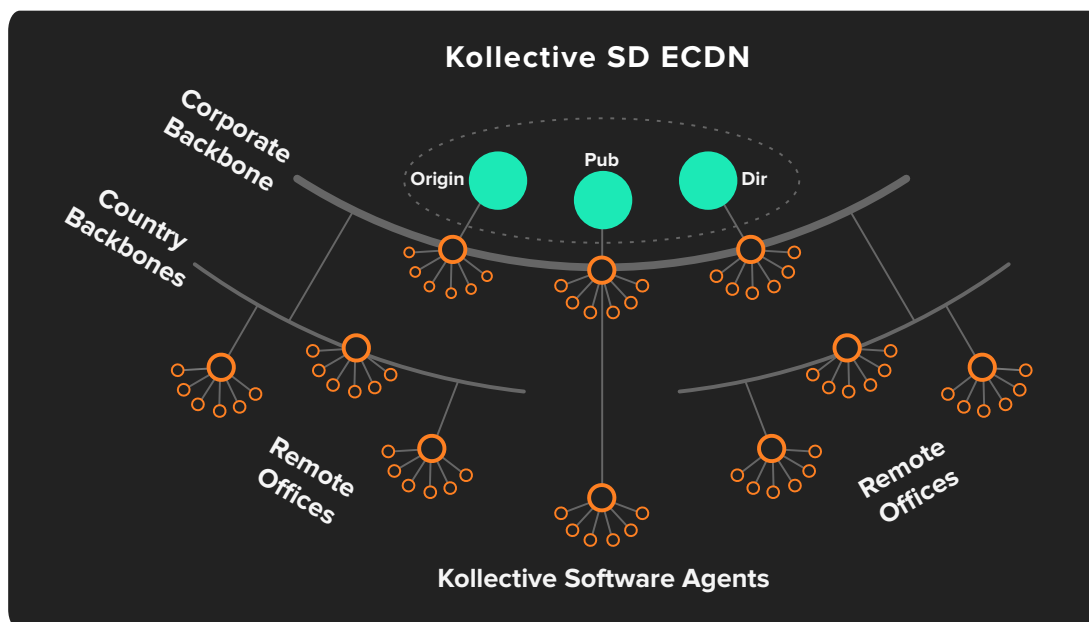
The peer-assisted network acts as a “shock absorber” for the network during sudden spikes in demand. At the time of the first request for a newly available content item, only the origin servers have the content. The servers do the initial work delivering content or “seeding” the peer-assisted network. As a few agents each obtain part of the content item, they are able to begin serving the part they have to other agents, thereby increasing the serving power of the network beyond the central servers alone. After many agents have downloaded large portions of files, the number of agents available to serve the content will begin to exceed the number that are still requesting data. This then becomes the steady state of the network.

Even though Kollektive SD ECDN was designed to handle network congestion, you can choose to deliver content subscriptions during off-peak hours to avoid network congestion. The Kollektive agent polls on a schedule specified by the content provider to check automatically whether a new delivery is available and if so, it begins downloading it. These deliveries can be scheduled to take place during off-peak hours in order to reduce network congestion and usage during peak hours. This process of publishing subscription updates during “quiet” times can also serve to “seed” the peer-assisted delivery network with a critical mass of agents available to serve the content on demand when large numbers of endpoints go online at once, for example in the morning.

Topology Awareness

In deciding what peers can serve other peers, Kollektive employs distance vector optimization to determine what peers are close to one another. Requesting agents are provided with a list of the nearest peers that have recently checked in. A centrally provisioned directory server that dynamically determines the network layout and reacts to current conditions manages this activity.

The directory server uses a set of heuristics to automatically provide lists of peers that are as close as possible to the requesting agent. The Kollektive agent software monitors the response times and available bandwidth of each peer that is serving the file, and adaptively requests more data from the endpoints that provide the best throughput. The agents in the Kollektive SD ECDN will automatically optimize to focus on the endpoints that have the topologically closest and least-congested connections, naturally adapting in real-time.



Deferential Delivery Protocol

Kollective- SD ECDN technology is set apart by its proprietary delivery protocol, the Kollective Delivery Protocol (KDP). In addition to being topologically aware, KDP is network-friendly and deferential to other network traffic. Many other popular protocols, such as HTTP, want to obtain the maximum transfer speed possible while fairly sharing congested links with other traffic. In heavily used networks, this can lead to the presence of packet loss or unacknowledged packet receipt. This packet loss is the primary means for determining when one or more links are congested, causing network connections to slow down and perform poorly.

KDP works differently from most protocols in that it never facilitates packet loss on the network. It does this by measuring the round-trip time (RTT) that it takes for one agent to send a packet and for the receiving agent to send an acknowledgement. If the connection is stable, KDP will attempt to increase its connection speed to take advantage of available bandwidth. If the RTT increases, KDP will take notice and stop sending data packets, thus seeking to avoid packet loss.

KDP sends small probe packets to measure RTT. When the measurement drops to an uncongested level, the agent will resume sending full data packets. This process goes on repeatedly, causing KDP to “soak up” unused bandwidth without interfering with other network traffic. This optimization of network usage while avoiding packet loss allows Kollective SD ECDN to send tremendous amounts of high quality video using existing network resources without causing network congestion.

Security

Kollective SD ECDN includes an end-to-end security framework that ensures enterprise-grade control over video delivery. Key security attributes are:

- Content can only be uploaded securely via SSL sessions.
- End users can use Kollective to distribute employee generated content only if authorized by an administrator.
- Every piece of content is automatically scanned for viruses when published and every day thereafter. Kollective’s virus definitions are automatically kept up-to-date.
- A file can’t be corrupted or substituted during transmission because every file has a digital signature that is checked to verify successful download. As a result, hostile attackers can’t send a malware-infected file, substitute some other piece of content for the one that was requested, or alter the content in any way.
- Content can be protected on a per-item basis with user authentication via username/password and access control by user or groups to make sure that only authorized users are able to play or view the content.

The Kollective Advantage

Greater Reach, Engagement, Intelligence

- 100% reach across the enterprise, even in remote offices.
- High quality video viewing experience on the desktop or mobile device, Live, or VOD.
- APIs enable flexible integration of rich content into portals and management systems.
- Detailed metrics and viewer reports on content consumption and network efficiency.
- Social engagement around video through consolidated corporate portal.
- IT can set network policies and control access to authorized users.

Secure and Scalable Technology

- Cloud-based software-only solution utilizes your existing network infrastructure (no hardware installations or upgrades!) to scale rich-media delivery at a lower cost, without sacrificing quality.
- SOC2/SOC1/ISO 27001 certified managed services delivered from our central application and storage servers located in Tier 4 data centers.
- Peer-assisted model based on patented Kollective Delivery Protocol (KDP) enables optimal network efficiency as every device becomes a content server and share one video stream.

Federated Services and Access Control

Kolleeve provides federated services support via SAML integration. Authentication and access control is provided via integration with a corporate user directory such as Active Directory (or any LDAP compliant directory system). This security overlay allows administrators to govern privileges throughout the supported workflows ranging from specifying which groups of users can watch video, approve or reject published content, govern metadata, moderate comments, brand the end user experience, promote content on key pages, syndicate to existing intranet sites, create channels or assign content to channels, and more.

Only content that is published to the central system by an authorized publisher is delivered by Kolleeve SD ECDN. To publish video for distribution, a publisher must authenticate by logging into to a central server. Once authenticated, the publisher can upload a video either by transferring it via SSL or having our central server(s) pull and broadcast it from the live video source, such as an encoder. Videos published through the Kolleeve SD ECDN are virus checked and encrypted for storage.

Point to Point and On-Device Encryption

All video transfers within Kolleeve are secure, using either the Kolleeve Delivery Protocol (KDP) or SSL over HTTP. KDP is based on industry standards for signatures and encryption. Each KDP message and response is signed and encrypted using the following standards:

- Public/private key pairs are generated using RSA algorithms implemented by the OpenSSL library. Kolleeve uses a 1032-bit key pair.
- Encryption is performed using the Blowfish algorithm implemented by the OpenSSL library with a 128-bit symmetric key. The PKI key pair encrypts and transfers these keys. These 128-bit keys are generated on the fly and only used temporarily during data transfers.
- Signatures are implemented by the OpenSSL library.
- On-demand content is encrypted when uploaded and reside in encrypted form on the central content servers. Content also remains encrypted as it resides on the device and is decrypted dynamically only when the media player is streaming it. This level of security helps ensure that a user can't redistribute sensitive information and that the content will remain protected even after it is delivered to the user.

Content Integrity

Kolleeve SD ECDN ensures the integrity of all content delivered, so that a malicious user or compromised device can't produce an altered copy of content that propagates through the network. Kolleeve SD ECDN generates an encryption digest for every "block" of a file. This digest then becomes part of the content metadata for that content item. Every receiver of content also generates its own digest of each delivered block and compares it against the original one that is part of the metadata. If any block fails a check, the agent will not source any more data from that server and will delete the bad blocks. Through this method, the system can guarantee a bit-perfect copy of every video stream received by every user.

Storage and Caching

Content is stored in Kolleeve's enterprise service cloud, which is a multi-tenant and shared server environment hosted by Kolleeve in highly secure data centers. Private cloud environments are also available. Locally, Kolleeve SD ECDN agents cache content on end-user devices. This includes video files, documents, thumbnails, and any other large content items delivered by the service. The disk space used is governed by preferences that can be controlled centrally.

Monitoring and Reporting

Kolleeve offers monitoring and reporting by providing insight into delivery status and network efficiency patterns, including:

- In progress deliveries, completed deliveries, halted deliveries
- Percentage of bytes delivered via LAN peers vs. WAN peers and WAN origin servers
- Total bytes delivered
- IP addresses of serving nodes
- Real-time information on bytes delivered during a live event
- Real-time feedback on the quality of experience (e.g. buffering)
- View experience metrics

Integration and the Kolleeve API

Kolleeve SD ECDN was built to offer easy integration with your existing systems and applications. Our solution includes a robust REST application programming interface (API) that enables access to core features of the platform, including our powerful delivery technology. Kolleeve's API enables you to create a customized experience for your business. The API set includes features such as:

- Content ingest & publishing
- Content display
- Discovery & security
- Content metadata management
- Content delivery

Third Party Integration

Kolleeve is committed to our integration services and we've partnered with a number of third party applications in order to offer a comprehensive and engaging social experience for users. For a current list of all of the Kolleeve SD ECDN integrations, be sure to review the list at <http://kolleeve.com/kolleeve-software-defined-ecdn/integrations/>

Learn More

Questions? We'd love to hear from you!

- **Contact Us.** Go to <http://kolleeve.com/contact> and fill out the short form. One of our experts will reach out to help you find the solution that's best for you.
- **Learn More.** Read the latest and engage in the conversation:
 - <http://www.kolleeve.com>
 - <https://twitter.com/kolleevetech>
 - <https://www.linkedin.com/company/kolleeve-technology>
 - <https://www.youtube.com/channel/UCGf14QwbAH0Ksq8NCO0gr1w/featured>



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