



Sorenson Media Solutions Overview

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Introduction

This Sorenson Media Solutions Overview helps you organize, plan, and conduct your evaluation of Sorenson Media Solutions, by providing an overview of each of Sorenson Media's solutions, the architecture behind those technologies, and detailed company information.

Intended Audience

This document is intended for readers who are evaluating Sorenson Media as a technology platform, and for business decision makers who must address strategic and functional issues as they plan their online video initiatives.

In This Document

This Sorenson Media Solutions Overview covers the following topics:

- Sorenson Media Overview
- Sorenson Squeeze 6: The Total Video Solution; Pain-Free Encoding, End-to-End Workflow
- Sorenson 360: a Total Video Delivery Network (VDN)
- Sorenson Squish and SquishNet: Empowering Users to Create and Use Content
- Sorenson Media APIs



Sorenson Media Overview

Sorenson Media offers comprehensive, award-winning solutions that empower businesses and video professionals to easily and affordably publish the highest-quality video to the Internet and other media.

In this Section:

- [Our Products and Services](#)
- [The Sorenson Advantage](#)
- [Awards & Accolades](#)
- [The First Total Video Solution](#)

Our Products and Services

Sorenson Media provides the following products and services.

- [Sorenson 360 Video Delivery Network \(VDN\)](#)
Our industry-changing video publishing platform
- [Sorenson Squeeze](#)
The gold standard for video encoding applications
- [Sorenson Squish and SquishNet](#)
An innovative, browser based encoder and a complete set of easy online video publication and content management tools
- [Sorenson Spark](#)
Lets you embed universal video playback capabilities on portable media devices, set top boxes, digital video cameras, multimedia phones, and PC software applications.

These solutions (which are described in further detail in subsequent sections for this Sorenson Media Solutions Overview) combine to create a user-friendly browser-based video publishing platform for user-generated content.

Click the image to watch video



The Sorenson Advantage

Since its inception in 1995, Sorenson Media has been instrumental in bringing Internet video to mainstream applications and is committed to dramatically improving the online video experience for both content creators and consumers. In addition to its long history and singular focus on Internet video, Sorenson Media is differentiated from all others in the online video market in the following significant ways:

Best-of-Brand Recognition

Sorenson Media has an established brand that is recognized for quality and innovation. Sorenson provided the first video codec in Apple's QuickTime player, the first video codec in Macromedia Flash, the first video codec used by YouTube, is the creator of the award-winning, best-in-class Sorenson Squeeze video encoding solution, and now offers the Sorenson 360 Video Delivery Network which has been called "a winner" by industry experts. For each of these reasons, and more, the Sorenson Media brand has become synonymous with digital video.

Partner-Proven Track Record and Executive Leadership

Sorenson Media is [partner-friendly](#), partner-committed, and partner-proven, with a track record of partnering with some of the largest brands in the world. The company's significant partnerships include Avid, Adobe, Qualcomm, Verizon, and Amazon Web Services. The company is led by an experienced executive team of digital media and technology veterans. Sorenson's leadership has a long history of committed, strong partnerships and has proven partnership skills with some of the biggest brands in the world, including Dell, Logitech, HP, and Intel.

Premium Customer Base

The Sorenson Media's customer base is wide, diverse, and enthusiastic. In addition to some of the aforementioned partnerships, Sorenson counts hundreds of Universities, Media Companies (Disney, NBC Universal, Gannett, Time-Warner), Government Agencies (Social Security Administration, US Air Force, US Navy), and Fortune 500 Businesses (Microsoft, Bayer, FedEx, AT&T) among its esteemed customer base. For a more detailed sampling, please see <http://www.sorensonmedia.com/customers/>.

Bright Future

Sorenson Media is a trusted partner: the company has been in business for 15 years, and will continue to be in the future. The company is well-capitalized, with an extremely healthy balance sheet, and long history of profitability. The company is funded by multi-billionaire entrepreneur James Lee Sorenson, who also serves as Chairman of the Board.

Heavyweight Technical Skill

Sorenson Media has ample experience with many different types of content—in all video formats. We are able to demonstrate proficiency and scalability in managing high-volume, horizontally-based content (few views per video); as well as viral (many views per video) content. Sorenson Media engineering team members have relevant experience supporting video hosting, dating back over a decade, including the pioneering work on the first ever Online Video Platform, Sorenson Vcast, which was launched in 2000.

Awards & Accolades

From a storied history of success, here is a short list of awards Sorenson has won over the past decade:

- **Streaming Media Readers' Choice Award – 2007, 2008, 2009**
- **"Fierce 15"- Top Online Video Company for 2009**
- **Digital Content Producer Vanguard Award – 2008**
- **Video Systems Vanguard Award – 2004**
- **Editor's Choice Award Tech-Edge – 2004**
- **Finalist by Network Computing for Well-Connected Award – 2003**
- **Best of Show at Macworld Expo & Conference – 2003**

The First Total Video Solution

Sorenson Media is focused on providing solutions that solve real business needs. From production to delivery of video, we provide the first Total Video Solution. Leveraging Squeeze, best-in-class video encoding provides the highest quality video. Video management, measurement, & publishing are supported with Sorenson 360 and powered by Amazon Web Services. In-browser encoding for UGC content is available via Squish and a fully customized front-end application, SquishNet offers content moderation, tagging, categorization, and rating. Robust APIs, Plugins and professional services tie all components together and provide users with virtually unlimited customization.



Sorenson Squeeze 6: The Total Video Solution; Pain-Free Encoding, End-to-End Workflow

Squeeze 6 is available in any of the following forms:

- A. A standalone desktop application for Mac or Windows
- B. A “headless” command-line version or service that can be invoked or accessed by a) other desktop applications, b) in a web browser via the Sorenson Squish product line or c) as a custom-build Java applet
- C. As a server product

In this Section:

- [The Typical Squeeze 6 Workflow](#)
- [Easy Video Review & Approval](#)
- [Automatic Notifications via Email and Text \(SMS\)](#)
- [Instant Video Publishing & Syndication](#)
- [Easily Automate Encoding: “Watch Folders”](#)
- [Seamless Integration with Leading Non-Linear Editors \(NLEs\)](#)
- [Online Repository of the Best Video Encoding Recipes](#)
- [The Leader in Audio / Video Codecs](#)

The Typical Squeeze 6 Workflow

The typical process of encoding and publishing video (shown below) has always been problematic. Sorenson Squeeze 6 is the first product to fully solve that problem— providing the first total solution, personalized for video content creators. Only Squeeze 6 provides a complete end-to-end workflow, from the production phase, to an automated review & approval process, to publishing to the Internet. Squeeze 6 is a best-in-class desktop video encoding application utilizing the leading codecs to provide the highest quality Flash, QuickTime, Windows Media, MPEG-1, MPEG-2, MPEG-4, and 3GPP output formats.

Click the image to watch video



Easy Video Review & Approval

Squeeze 6 automatically sends your clients or co-workers secure, password-protected videos for immediate review & approval. Review comments can be submitted in real-time back to you.

Automatic Notifications via Email and Text (SMS)

Squeeze 6 automatically notifies your clients, colleagues, friends—or even yourself— when encoded files are done and ready for review.

Instant Video Publishing & Syndication

Publish video to Sorenson 360, YouTube, Twitter, Akamai, and Limelight. Squeeze 6 offers instant publishing and syndication directly from the desktop application. Select as many destinations as desired from within Squeeze 6 and when encoding completes, files are automatically uploaded to the selected destinations. You can also send video to FTP locations, local network folders, or other applications.

Easily Automate Encoding: “Watch Folders”

The purpose of a watch folder in Sorenson 360 is to automate your encoding workflow. You can set up a watch folder on a local machine or network location. Once the folder is created, encoding “recipes” or presets, filters, publishing destinations, and notifications can be applied to any video source files that are placed in this folder. Squeeze 6 sits ready and “watching” for these files to be placed into this folder and begins batch encoding automatically. Watch folders automate repeated tasks and provide a significant time savings over manually setting up encoding projects each time.

Seamless Integration with Leading Non-Linear Editors (NLEs)

Squeeze 6 is designed to work with the top video editing software, making it easier than ever to quickly create rich, publication-ready content.

AVID Integration

Squeeze works seamlessly with Media Composer, Media Composer Mojo DX, Media Composer Nitris DX, Symphony, NewsCutter, NewsCutter Mojo DX and NewsCutter Nitris DX.

Squeeze 6 is so seamlessly integrated into the AVID workflow, you don't even need to export your timeline. Squeeze 6 will automatically create a QuickTime reference file that can easily be encoded to virtually any format. Squeeze 6 then goes to work and encodes the file to your specified preset and destination.

Apple Final Cut Pro & iMovie Integration

Squeeze 6 seamlessly integrates into Apple Final Cut Pro & iMovie products enabling you to select Squeeze presets without ever leaving these applications. Simply select one of Squeeze's default intelligent presets and save. Squeeze then goes to work in the background and encodes the file to your specified preset and destination.

Online Repository of the Best Video Encoding Recipes

Sorenson Media provides an online repository of professional video encoding recipes, known as presets, that can be directly accessed within Squeeze 6 or from the Sorenson Media website. Choose from a variety of FLV, MP4, WMV, MOV and other format presets, and then directly import these into Squeeze 6.

To view the latest encoding presets, visit: <http://presets.sorensonmedia.com/>

The Leader in Audio / Video Codecs

Squeeze 6 has more encoding and decoding capabilities than most tools on the market.

Input Any Video Format

- AAC
- AC3
- AIF/AIFF
- ASF
- AVC-Intra
- AVI
- DV
- MOV
- MP3
- MPEG-1
- MPEG-2
- MPEG-4
- VC-1
- WAV
- WMA
- WMV

Output Even More Video Formats

- aacPlus
- AAC
- AC3
- AIFF
- AVI
- Sony PSP
- 3GPP
- DVD
- DV Stream
- Image Sequence
- FLV (Sorenson Spark, and On2 VP6)
- F4V
- HD
- MPEG-1
- MPEG-2
- MP3
- MP4 (H.264)
- MPV
- SWF
- WAVE (plus other QuickTime export components)

Video Encoders

Squeeze encodes video in an impressive array of formats.

- Main Concept H.264
- VC-1
- MPEG-2
- On2 VP6 Pro
- Sorenson H.264 Pro
- Sorenson MPEG-4 Pro (for Visual Simple Profiles and Visual Profile encoding)
- Sorenson Spark Pro
- QuickTime Encoders
- Real Media Encoders

Audio Encoders

Squeeze encodes audio in the most demanded audio formats.

- aac Audio
- aacPlus Audio
- ACELP RealAudio
- ADPCM
- ATSC A/52
- QuickTime-compatible audio codecs
- Fraunhofer MP3

Squeeze 6 Minimum System Requirements

This section lists the minimum operating requirements on various computer platforms.

Windows

- Pentium IV-based computer or greater
- Windows XP, Vista or 7
- 512 MB RAM
- 120 MB available hard drive space
- QuickTime 7.2 or later
- DirectX 9.0b or later

Intel-Based Processor

- Mac OS 10.4 or later
- 512 MB RAM
- 120 MB available hard drive space
- QuickTime 7.2 or later



Sorenson 360: a Total Video Delivery Network (VDN)

Sorenson 360 is an innovative, high-quality video delivery network. With Sorenson 360, you get a total publishing platform solution with the ability to easily manage your video online. Combine your creativity with Sorenson Media's years of video know-how and you'll get the highest quality, easiest to use encoding, delivery and management system available anywhere. After all, you know us... We know video.

In this Section:

- [With 360 You Have All the Power](#)
- [Get Your Message to the World in a Flash](#)
- [Sorenson 360 Features](#)
- [Sorenson 360: Behind the Scenes](#)
- [Security Features](#)

With 360 You Have All the Power

Don't send your video to the "unknown server in the sky." With the Sorenson solution, you are in control. Whether you use the industry-leading Squeeze application, or the innovative, browser based encoder Squish to get your video to 360, you will have the final say on how your video looks. With Sorenson products and services you are the artist, video is your brush and 360 is your gallery.

Get Your Message to the World in a Flash

With Sorenson 360 your videos can be viewed around the world in less than five minutes! The process is simple: after activating your account, just bring your video into Squeeze or Squish, apply your custom 360 Flash or MP4 preset, and your video will be automatically published to your private account. Within the cloud-based 360 interface you can take the video embed codes to post into your web site so the world can view your creation in a matter of minutes.

Sorenson 360 Features

This section details the extensive functionality of Sorenson 360.

Flash Player SDK

Sorenson Media provides a Media Player SDK that enables custom-built or 3rd-party Flash media players to play back content from the Sorenson 360 platform. The SDK includes a lightweight, pre-compiled ActionScript 3 component that can be integrated into Flash media players with minimal effort. The component encapsulates and manages media file lookup, media file retrieval, playback accounting, engagement accounting, bandwidth throttling, etc.

For developers who do not wish to use the Media Player SDK, Sorenson Media also provides the full-featured, robust 360 API with bindings for all modern programming languages (ActionScript, C++, Java, C#, etc.). Developers may use the 360 API to add support for Sorenson 360 to custom-built or 3rd-party media players.

Developers who use the Media Player SDK will enjoy the lightweight (100k) precompiled AS3 component (.swc). Developers who use 360 API bindings will also enjoy a very small footprint, although the language bindings vary in size based on the chosen implementation.

Uncompromising Reliability

The Sorenson 360 service has not experienced any downtime since service launch in May 2009. Sorenson 360

provides 24/7/365 system monitoring.

Automated Search Engine Optimization (SEO)

Sorenson 360 features multiple ways to automatically generate better Search Engine rankings. This can mean higher visibility in search rankings and more well qualified search traffic to a prospect's site. The Sorenson 360 customer has an automated system of SE submission for each permalink page created (i.e. each video) in Sorenson 360.

Optimized URLs

Our expectation is that keyword-rich URLs will help Permalink Page rankings. We've created a Video Sitemap that is crawled frequently.

Customers who adopt 360 will have the option of keyword-rich URLs for each of their videos. Customers can also choose to redirect to their own customer URL (a worthy inbound link — also an SEO benefit). Formatting looks like this:

[video-title] - [keyword-1] [keyword-2] [keyword-3]

SEO Keywords — Fields are available for keywords that also become part of the Permalink URL. This is useful in two ways:

- 1) **Metadata** — The ability to enter a video description is now in the SEO tab.
- 2) **Company Name** — The company name given will be used in the URL of the SEO-friendly Permalink Page titles.

Automatic Search Engine Indexing

All Sorenson 360 videos are automatically optimized and submitted to major search engines such as Google, Yahoo! and Bing. As a result, customers can expect to achieve higher visibility in search rankings and a higher degree of qualified search traffic to your web site.

WordPress Video Plug-in

Integration made easy... Bring your videos directly into your WordPress sites using one simple interface. The Sorenson 360 for Wordpress Plugin enables you to post Flash or MP4 videos directly into the Wordpress publishing platform.

This plugin allows you to easily incorporate your Sorenson 360 videos directly into your WordPress blog. Simply extract this zip file into your wp-content/plugins directory. Once extracted and activated, the Sorenson 360 Video plugin will appear within the Wordpress editing tools dashboard.

Now when adding a new post there will be a Sorenson 360 icon (bloom) that when clicked will bring up a list of your Sorenson 360 videos. Simply choose the embed size of your choice and click the Add to post button. Your video will now be embedding into your blog post.

Individual users can also enter their own Sorenson 360 credentials from their profile page. The plugin is free and can be downloaded here: <http://www.sorensonmedia.com/wordpress-plugins/>

High Definition — HD Video Experience

Sorenson Media can demonstrate the superiority of using Sorenson Squeeze and Sorenson 360 for HD content. The Sorenson HD solution enables content publishers to provide an "HD Video Experience" (video and audio quality) with their content as a way to improve user retention, longer view times, and improved monetization:

HD Video Encoding — Sorenson Squeeze 6. Specially created and labeled desktop encoding HD presets will include best-in-class Flash, H.264 video codecs and high quality audio codecs.

Ease-of-Use — Sorenson Media provides a turnkey approach to HD content—from video production through delivery (Sorenson 360) that makes HD video workflow easy.

Unique Challenges Solved — Sorenson Media alleviates time, headaches and failures inherent to server-side encoding of large-file HD content, since you are not required to upload large files over balky Internet connections.

Why HD Video is Better

Industry data has shown that high quality video equates to more satisfied customers, more content consumed, and increased opportunities for monetization. High quality video reflects your brand, products and services, and credibility in the marketplace.

The HD Video Experience provides the *industry's first* HD video AND audio combination to enable the highest-level of quality and experience for online video content.

- HD quality video and audio a first in the online video industry
- This HD packages offer ease-of-use unavailable anywhere else
- Combination of HD video encoding and high quality audio ensure the highest quality experience
- Increased quality of video directly impact content consumption and monetization

HD Video Player – Sorenson 360 supports HD Player Sizes and Embed Codes, including 16X9 HD (1280x720), 4X3 HD (960x720).

Sorenson 360: Behind the Scenes

Sorenson 360 services are built upon a cloud infrastructure fronted by a sophisticated set of load balancing and provisioning rules. This gives us the ability to automatically scale up and down as necessary. We have rigorous load tests that we put our platform through continuously. Our development and test environments mimic our production environment so that we have the ability to test “real world” scalability without risking the public facing service.

We have built the Sorenson 360 platform from the ground up with scalability in mind. Sorenson 360 service monitoring can dynamically bring up new servers as necessary to handle periods of peak usage. In addition to the traditional CPU and Memory consumption monitoring, we are able to monitor application-level statistics (such as response time) and bring servers up and down appropriately. Technology employed within the Sorenson 360 platform include:

DNS (Domain Name Systems)

Provider: UltraDNS

DNS is a hierarchical naming system for computers, services, or any resource connected to the Internet or a private network. It associates various information with domain names assigned to each of the participants. It is inherently a single point of failure due to the way the Internet works. For this reason, it is very important to choose a provider that is fully redundant and has experience in handling massive load.

UltraDNS serves large companies with large Internet presence, such as Amazon, Wal-Mart and Target. Because Amazon is using UltraDNS, it was a natural fit for our services. This service by itself is fairly expensive, but sharing it across all our customers makes it very economical for the average Sorenson 360 user account.

Server Infrastructure

Sorenson 360 utilizes cloud-based server infrastructure. Cloud computing describes a new supplement, consumption and delivery model for IT services based on the Internet, typically involving the provisioning of dynamically scalable and often virtualized resources, like servers, as a service over the Internet.

Cloud Advantages

Agility improves with Sorenson users' ability to rapidly deploy technological infrastructure resources.

- Cost is greatly reduced and no capital expenditure is required for necessary video platform infrastructure.
- Device and location independence enables users to access Sorenson 360 using a web browser regardless of their location or what device they are using (e.g., PC, mobile).
- Scalability via dynamic ("on-demand") provisioning of resources in near real-time. Performance is monitored constantly.
- Peak-load capacity increases (Sorenson users need not worry about highest possible load-levels).
- Reliability improves through the use of multiple redundant sites, which makes cloud computing suitable for business continuity and disaster recovery.

- **Maintenance & Support.** Cloud computing applications such as Sorenson 360 are easier to maintain, since they don't have to be installed on each user's computer. They are easier to support and to improve since the changes reach the clients instantly.

Provider: Amazon EC2

Servers for a media delivery platform need to be able to dynamically scale up and down based on the use of the service, as well as have failover. In a traditional infrastructure, a company needs to have many times their current servers, anticipating growth. EC2 lets a user bring up virtual servers in any Amazon datacenter location. EC2 allows for instant growth based on use— without having to pay and manage physical servers that may not be active.

Furthermore, servers can be spread throughout a number of geographic locations across the Amazon footprint, providing many levels of redundancy that a single traditional data center would not provide. Sorenson 360 utilizes EC2 because it provides for all of the requirements that are essential for building a robust, scalable media platform.

By using Sorenson 360, customers benefit from the custom EC2 images we have optimized for video delivery, redundant databases, and complex server architecture. In contrast, a single user on their own would need to bring up multiple EC2 instances to get all the same benefits of Sorenson 360. As a customer, you share the cost associated with having a large infrastructure among thousands of people, reducing the cost of entry by many factors.

CDN (Content Delivery Network)

Provider: Amazon CloudFront

File serving from a single server in a single location can be slow if not accessed by a nearby location. CDN services distribute the file to servers around the world and dynamically deliver that file from the location closest to the user. The result is dramatically faster downloads and a much better user experience. CDNs also reduce the cost of bandwidth.

Sorenson chose Amazon CloudFront for Sorenson 360 because every file within the service (and by default, on Amazon S3) could take advantage of it. All videos and images used in the Sorenson 360 service are served out faster for a better user experience; and by pooling all Sorenson 360 users, CDN delivery is less expensive for all customers than content delivery would be by going direct.

File Storage

Provider: Amazon S3

You never want to lose a file – especially not your prized video assets. To prevent a file from being lost, you need a solution that is redundant in multiple locations, has failover to those locations, and is easily accessible and scalable.

Amazon S3 meets each of these criteria. A file on S3 is stored in three physical locations and the access to the file is secure and simple. While S3 is simple, the software for a media platform that uses it is rather complex. Our Sorenson 360 software provides all the value of S3, while sheltering you from all the complexities associated with using the service in a media platform.

Streaming Media Server

Provider: Amazon Cloudfront

Streaming video is more cost effective and provides a better user experience than the traditional method of progressive download. The problem is that streaming video requires dedicated servers to handle this kind of video delivery. These servers require significant CPU and RAM and are generally very expensive. Amazon Cloudfront, in addition to its normal CDN services, also provides RTMP (Real Time Messaging Protocol) streaming media servers for any file stored on S3. Sorenson 360 provides the user a choice of experiences between streaming and progressive download by utilizing a combination of Cloudfront and S3 for every file in our platform.

Cloud Management

Provider: Scalr.net

Managing a large virtualized infrastructure without any console is very complex. Scalr.net provides a management console that allows customers to manage multiple EC2 instances in a single simple dashboard. Sorenson 360 uses these services to manage our infrastructure's scalability and organize its architecture for the media platform.

Monitoring

Provider: Pingdom/Basic State/Sorenson Media/Scalr.net

With a large infrastructure necessary to build out a media platform, it is crucial to be alerted of any major event or change in the system. This enables our team of experts to respond to issues and maintain consistent uptime for continuous service. Sorenson uses multiple monitoring solutions to provide maximum coverage to ensure that if anything happens — no matter how small — Our expert team can address the issue as fast as possible.

Email Services

Provider: Zimbra/Datasync

Email communication is a common feature in video platforms for sharing video URLs and notifications. Zimbra provides a best in class email service. Sorenson 360 utilizes email for notifications and sharing functions.

SMS

Provider: Clickatell

Notifications to cell phones provide real time communication for the video review and approval process. Clickatell provides timely SMS services across many countries. Sorenson 360 provides the user with SMS communication that is faster than email.

Security Features

This section details Sorenson 360's bulletproof protection.

Physical Security

Sorenson 360 utilizes the advantages of both internal physical and multiple third-party virtualized infrastructure services to achieve optimum physical security and performance. All infrastructure was built leveraging many years of experience in designing, constructing, and operating large-scale datacenters.

This experience has been applied to the Sorenson 360 platform and infrastructure. Sorenson 360 data-centers are housed in nondescript facilities. Physical access is strictly controlled using state of the art intrusion detection systems, and other electronic means. Authorized staff must pass two-factor authentication a minimum of two times to access data-center floors.

Data-center access is only provided to employees and contractors who have a legitimate business need for such privileges. When an employee no longer has a business need for these privileges, his or her access is immediately revoked, even if they continue to be an employee. All physical access to datacenters is logged and audited routinely.

Network Security

The Sorenson 360 network provides significant protection against network security issues and threats. Below is an overview of the Sorenson 360 network security best practices and standards:

- All Sorenson 360 host servers sit behind a complete firewall solution; this mandatory inbound firewall is configured in a default deny mode and any inbound access must explicitly open specific ports as needed to allow inbound traffic.
- All firewall configuration requires the use of a X.509 certificate and key to authorize changes.
- All traffic through the firewall is restricted by protocol, service port and source IP address [individual IP or Classless Inter-Domain Routing (CIDR) block].
- Traffic is additionally restricted utilizing filters from host-based firewalls. This restricts both inbound and outbound traffic on each host.
- All administrative SSH access is restricted to the Sorenson Media corporate network.
- All password-based access is disabled to all hosts.
- Secure key-based multi-factor authentication is utilized on all hosts.
- All direct remote root/administrative login is disabled.

- Privilege escalation mechanism for role-based access is granted on a per-user basis.
- All privilege escalation utilizes 'sudo' command-level restricted access.
- Intrusion Detection System monitoring on all servers is used to black-hole traffic identified as a source of malicious network traffic (exploits, DDoS, etc), by dynamically modifying IP table rules on each server when malicious traffic is identified.
- Internal Nagios and external third-party services are used to monitor server health and alert administrators, and to provide historical statistics about resource usage.
- All servers are kept up to date with the latest in application and operating system-level security patches.

Web Services Security

The Sorenson 360 Web Services authorize applications and users to make method calls across any network that supports the HTTP protocol including the Internet.

Every public method expects a security token, in the form of a Globally Unique Identifier (GUID), to be passed as the first parameter of the method. The security token is issued to the client upon successful authentication. A copy of the security token is kept in the Sorenson 360 database so that it can be matched with security tokens passed from the client. The requested method is only executed if the security token is validated.

As an additional security measure, all sensitive traffic to and from the Sorenson 360 Web Services are encrypted using Secure Sockets Layer (SSL) 128 bit encryption.

Data Security

Without close attention to security details, applications can inadvertently disclose information that can potentially help hackers compromise the security of a website. Sorenson Media protects against this using several methods:

SQL Injection - Sorenson 360 uses a database abstraction layer that obfuscates all direct SQL statements and stored procedures to eliminate the possibility of SQL Injection attacks. In addition, Sorenson 360 executes SQL statements and stored procedures that receive parameter value input from the user under dedicated database server user accounts that do not have access to view system tables or schema view statements.

Hashing of Passwords — Passwords stored in the database are not stored as plain text but are encrypted using salted password hashes. Hashing is a one way process where the passwords are encrypted. It is mathematically unfeasible to decrypt them. Therefore, if a user inadvertently gains access to the table in which passwords are stored, then they will not be able to read the passwords or reverse password encryption to gain access to customer accounts.

Application Limited Database Connectivity — Each application server periodically needs to access Sorenson 360 database servers to read and write persistent application data. Each database connection is limited only to the access required to perform each data transaction. This prevents any connection from accessing other areas of data segmented into access levels.

Credit Card / Ecommerce Data — Sorenson Media has a policy of not storing any credit card information from customers. All ecommerce storage and transactions are performed with industry trusted third-party services from Authorize.net which maintains tight security, including using both standard and advanced fraud detection and prevention tools crucial to maintaining a successful business.

Application Error Handling — Configuration settings in some application frameworks make it possible for unhandled application errors to be displayed to the user along with the source code where the error occurred. Sorenson Media disables this option on all Sorenson 360 application servers and additionally handles all un-trapped errors messages and displays a user-friendly error dialog. In addition to this, all untrapped errors are logged to the Sorenson 360 application servers and secure centralized logging services.



Sorenson Squish and SquishNet: Empowering Users to Create and Use Content

With Squish and SquishNet, Sorenson Media empowers users, in areas ranging from online marketing to higher education (including some of the most prestigious universities in the world), to easily engage in video-blogging, community and other forms of interactive media enhancement with tools that quickly deliver exceptional results.

In this Section:

- [Sorenson Squish](#)
- [Sorenson SquishNet](#)

Sorenson Squish

Sorenson Squish is a client-side Java applet that enables users to publish high-quality video to Web sites without requiring them to leave the site or to install any additional software. It is compatible with all major browsers and supports all major image formats and input video formats. Client-side encoding maximizes quality, control, and upload speed, while clients save money because they do not have to bear infrastructure or maintenance costs while accepting user-submitted video onto their sites.

Performing the compression on the client machine instead of on a central server provides you with significant cost savings, and greatly enhances the user experience. By compressing video on the client, only the smaller compressed video file is uploaded, making the upload process much faster. This is especially true for most residential users, whose broadband connections tend to be slower in the outbound direction. The user is also presented with immediate feedback instead of waiting indefinitely to hear when the compression is complete if this compression were to be done on the server.

The two Squish components that you need to host are:

Squish Applet — This is a Java applet that needs to be served up from your Web server. It will initialize and run Squish in the user's Web browser.

Squish Helper Library — Your web application integrates the Squish java applet using the helper library. This library generates the needed applet tag (HTML code with object and embed tags) that your web application will use to display Squish.

Squish Helper Library Language Bindings — Sorenson Media provides the Squish Helper Library for the following web application platforms

- Ruby on Rails — Ruby gem
- .NET — SquishStandalone.dll
- Java (Servlet and JSP support) — SquishStandalone.jar
- PHP

Typical Squish Integration Workflow

Your application instantiates a Squish AppletTag object passing in the appropriate parameters such as the desired applet width, height, colors, allowed capture length, upload success URL, upload Failure URL, etc.

Your application then calls the `getAppletTag()` method on the newly created `AppletTag` object. This method returns a string that can be embedded into the appropriate Web page. This string contains the applet tag required to start the Squish Applet.

When a user accesses your Web site and the page that contains the embedded result from the `getAppletTag()` method, the applet support files are downloaded to the client machine and the Squish Applet appears within the browser. Please note that many of the applet support files are not downloaded until they are needed and many of them are downloaded in the background, thereby minimizing the amount of time it takes for the applet to become visible.

Note: If an appropriate Java Virtual Machine is not installed on the client system, the user will be guided through the process of installing a suitable Java Virtual Machine. At this point the user may import a video or image file into the Squish Applet, or capture video directly from a Webcam or camcorder.

The user then presses the **PUBLISH** button to publish the input video. This starts the video compression, and then uploads the resulting Flash format output video (and the associated storyboard summary) to the storage area.

If the upload is successful, the Applet redirects the hosting browser to the `UploadSuccessURL` specified when the `AppletTag` object was created. If the upload was unsuccessful, the applet redirects the hosting browser to the `UploadFailureURL` specified when the `AppletTag` object was instantiated.

Sorenson SquishNet

The customizable Sorenson SquishNet snap-on video management component enables clients to immediately add user-generated video content to their Web sites. SquishNet helps the client host, organize, view and share content generated and uploaded with Squish and other tools.

SquishNet is designed to provide a powerful yet intuitive editorial workflow, enabling your editorial team to manage and organize all user-submitted media. Editors may view, accept or reject any content submitted prior to final publication. SquishNet can be configured to automatically notify submitters when content has been approved or rejected. The account management interface provides user access controls, tagging, categorization, and selection of “Editor’s Picks.”

SquishNet Key Features

- Snap-on Web application to enable media sharing:
 - Supports both photos and videos
 - Embedded Flash player for videos
 - Visual layout of Web page controlled through reconfigurable CSS template
 - Interactive search to find assets based on title, author or tag
 - Patent-pending keyframe extraction technology to generate storyboard summaries of videos
 - Web 2.0 AJAX interface minimizes page refreshes and allows smooth navigation of the site
 - Editorial interface
- View, accept or reject any content submitted prior to it becoming publically accessible
- Automated email notification for users when their content has been approved/rejected
- Direct integration to Sorenson 360
- Monitor editorial activity
- Account management interface
- Support for “community”-based rating and comments
- Ability to designate “Editor’s Picks”



Sorenson Media APIs

When developing products, Sorenson Media always considers APIs first. All Sorenson Media APIs are built on top of industry standards based protocols. In particular, the Sorenson 360 APIs use both HTTP and HTTPS for client-server communication. All Sorenson Media wire APIs are RESTful and all data returned from Sorenson Media REST API requests is in the form of JSON. In addition to the REST wire APIs, all Sorenson Media products provide native language bindings for Java, .NET, Ruby on Rails, Python, PHP, and C++ making it easier for developers by enabling them to work with native objects rather than worry about consuming the JSON returned from the REST APIs.

In this Section:

- [Scalable, List-Oriented API Design](#)
- [Readily Customized APIs](#)
- [Compatible Approach To Releasing Technology Enhancements](#)
- [Front-End to Control Content Life-Cycle through API](#)
- [Connectivity with Public Sharing Sites](#)

Scalable, List-Oriented API Design

All Sorenson Media APIs are scalable and provide a high level of control to the API consumer. For example, when requesting a list of assets (or videos) associated with a user's account, you are able to pass parameters into the API request indicating which asset(s) you are interested in, along with the number of assets you wish to retrieve. This ensures that you will only receive the amount of data you are interested in for each request. This eases many programming tasks such as pagination. Of course this also reduces the amount of data that needs to be sent over the wire.

Readily Customized APIs

The Sorenson 360 system has been architected to enable the server-side APIs to stand outside of other backend services, such as the 360 Content Management System (CMS) website. This segmentation allows Sorenson Media to make isolated changes and enhancements to the server-side API without the need to touch the visual aspects of the CMS itself. Sorenson 360 follows a strict Model View Controller (MVC) architecture that also facilitates rapid changes to our API with minimal risk.

Compatible Approach To Releasing Technology Enhancements

Sorenson Media uses a slightly modified Agile / SCRUM development process. Although we do things in a controlled fashion, we believe in a "release often" approach to development. Because we use Agile development practices, we are able to constantly evaluate technology enhancements. If an enhancement is deemed to be a high enough priority, it then becomes part of our next sprint or "to-do" list. In addition, we have nightly build processes, automated continuous integration, and QA involved throughout the development lifecycle. Our development and test environments are exact replicas of our production environment, virtually eliminating any risk of unforeseen glitches when we release new features or enhancements.

Front-End to Control Content Life-Cycle through API

The Sorenson 360 APIs are built to enable full control over all aspects of a compression, publication, and view lifecycle. Once a job is submitted for processing, a developer has full control of that job throughout its lifecycle via our

APIs. This includes such aspects as pausing, resuming, or cancelling a compression, transcoding, or publishing job. In addition, our APIs provide control over access/visibility via password protection, along with the ability to retire a video. Our APIs also provide several methods of notification as the job proceeds. This includes real-time email notification as well as other various notification methods, such as SMS text messages.

Connectivity with Public Sharing Sites

Sorenson 360 provides server-side syndication to Youtube and Twitter, as well as syndication to third party CDN's such as Limelight and Akamai. Additional syndication points can be set up "on the fly" because syndication definitions and query capabilities are built directly into the Sorenson 360 APIs.