

Azuki Media Platform™

Scalable and sophisticated platform designed to deliver any content to any device over any network

The explosive growth of smartphones and tablets, combined with over-the-top (OTT) delivery has forever changed consumer's video viewing habits. Content owners, enterprises and service providers are rushing to deliver video content to consumers on multiple screens, beyond traditional TV.

The Azuki Media Platform is an end-to-end, scalable and sophisticated technology with an intelligent client architecture, designed to deliver premium, protected content to any device over any network. The Azuki platform enables customer to capitalize on their multi-screen initiatives and deliver best-in-class, highest-quality live, on-demand, short-form, and long-form video across all mobile platforms, desktops and connected TVs.

THE AZUKI MEDIA PLATFORM ENABLES:

- » Cable TV service providers to make TV Everywhere a reality – quickly and cost effectively – by leveraging existing video workflows.
- » Mobile network service providers to deploy a scalable and reliable multi-screen video service that optimizes user experience and provides dynamic bandwidth management.
- » Content owners to simplify and add client intelligence to cross-platform content preparation, including transcoding, segmentation, content protection (DRM wrapping) and, uploading – all the way to protected content delivery and playback.
- » Enterprises to deploy a mobile video solution for high-quality and secure corporate video communications to customers, employees, partners and suppliers – via all mobile smartphones and tablets, including Apple, BlackBerry, Android, and Windows Phone 7.

The Azuki Media Platform provides fast time to market and flexible deployment options such as product-based or cloud-based Software as a Service. Its scalable components include Azuki Preparation Processor, Azuki Media Manager, Azuki Content Controller and Azuki Media Client.

AZUKI MEDIA PLATFORM™			
AZUKI PREPARATION PROCESSOR	AZUKI MEDIA MANAGER	AZUKI CONTENT CONTROLLER	AZUKI MEDIA CLIENT
Ingestion	Content-Device-User Correlation	Client Requests Handling	Cross Platform
Transcoding	Metadata Control	End-to-End Bandwidth Management	Adaptive Streaming
Segmentation	Run-Time Analytics	User Registration	Device Hardening
Content Protection	Authentication	Digital Rights & Device Management	Interactive Markers
Uploading	DRM Key Management		Bandwidth Optimization
			CDN Federation

THE AZUKI MEDIA PLATFORM COMPONENTS:

AZUKI PREPARATION PROCESSOR

Ingestion
Transcoding
Segmentation
Content Protection
Uploading

AZUKI PREPARATION PROCESSOR

The Azuki Preparation Processor - for live or Video-on-Demand - reduces the complexity of operating multiple external resources by provisioning a single interface and common workflow for content ingestion, transcoding, segmentation, content protection (DRM wrapping) and uploading

AZUKI MEDIA MANAGER

Content-Device-User Correlation
Metadata Control
Run-Time Analytics
Authentication
DRM Key Management

AZUKI MEDIA MANAGER

The Azuki Media Manager performs media preparation scheduling and publishes information associated with the content. It also authenticates access based on correlating device, user and content rights. It also aggregates sophisticated reporting and run-time analytics.

AZUKI CONTENT CONTROLLER

Client Requests Handling
End-to-End Bandwidth Management
User Registration
Digital Rights & Device Management

AZUKI CONTENT CONTROLLER

The Azuki Content Controller performs a proxy function to support content delivery, based on client requests for playlist downloading, progressive download and streaming. It also performs the service mediation function including playlist handling and content license service. Additionally, the Azuki Content Controller provides service mediation, sets up sessions, controls bit-rate assignments and federated CDN routing.

AZUKI MEDIA CLIENT

Cross Platform
Adaptive Streaming
Device Hardening
Interactive Markers
Bandwidth Optimization
CDN Federation

AZUKI MEDIA CLIENT

The Azuki Media Client provides end-to-end controls for intelligent and dynamic bandwidth traffic management and content protection. It continuously monitors the digital stream to ensure the highest quality of service. It authenticates usage through an external database that contains each subscriber's viewing rights data and intelligently controls the mobile device and ad-proxy to support the placement of targeted ads. Additionally, it provides extensive analytics and reporting while enabling new opportunities for monetization.

AZUKI MEDIA PLATFORM KEY FEATURES & BENEFITS

HIGHEST QUALITY CROSS-PLATFORM HTTP ADAPTIVE BITRATE STREAMING

- » Delivers maximum video quality at all times via adaptive bitrate streaming – a technique that continuously monitors the viewer’s bandwidth and device capabilities in real time.
- » Seamlessly adapts the data rates, frames per second, and resolution of the video stream as network conditions change. The result is a high-quality user experience in both high speed and low-quality network conditions, with a fast video load time, minimal buffering and no annoying pauses.

AUTOMATED WORKFLOW FOR CONTENT INGESTION & PREPARATION

- » Utilizes automated, standards-based feeds and web-service APIs to ingest content and metadata from a Content Management System and prepares it for multi-screen delivery. Feeds contain URLs to the videos as well as the metadata and policies that will ultimately populate and provide markers and playlists for the multi-screen application.
- » Transcodes video into multiple formats, resolutions, and bitrates for optimized output across all mobile device platforms. The Azuki transcoding API integrates with 3rd party transcoders to leverage existing investments.
- » Segments content to support Adaptive Bitrate Streaming during playback. Segments are optionally encrypted as part of Azuki’s best-in-class content protection solution - including digital rights management (DRM), and pushed to Content Delivery Networks (CDNs) for optimal download performance.

UNIVERSAL CONTENT PROTECTION & RIGHTS MANAGEMENT

Azuki Content Protection:

- » Separates the digital rights policy management from the enforcement of those policies, enabling content owners and service providers to use any 3rd party rights manager to define the policies and access permissions for the content. Content protection server and client enforce these policies while thwarting attacks on the device itself.

- » Works in conjunction with the native player on the mobile device, and is not tied to a specific media format or streaming technology, so providers are free to use native HTTP adaptive streaming, Adobe® Flash®, or Microsoft® Silverlight™.
- » Supports all distribution models – via the Azuki client, including streaming (both Video-on-Demand and Live), download and play (including offline play), and side loading.
- » Supports subscription, pay-per-view, and rental models and can leverage location and network information to support blackout zones, country restrictions, and mobile network restrictions.

FLEXIBLE CDN DISTRIBUTION AND DELIVERY

Azuki Media Platform enables:

- » Edge video delivery from a variety of services including industry standard CDNs, service provider delivery products, and standard HTTP delivery engines.
- » Customer configuration of one or more delivery destinations and utilization of different destinations based on custom business rules.
- » The leverage of different billing codes and different CDNs based on premium status, proximity, or provider.

DYNAMIC AD INSERTION AND MARKERS

Azuki Media Platform leverages markers to:

- » Provide dynamic interactivity within video (through time based reference points)
- » Dynamically insert ads into defined points within a video.
- » Consult an ad service and receive a set of ads when video playback is requested, and seamlessly insert the video ads at the indicated time offsets.
- » Customize user experience, based on authorization rules. For instance, premium users may not be forced to view advertisements. Standard users will receive targeted ads based on demo graphics, geo-location, and other data, rather than advertisements that were pre-stitched at ingestion and served to everyone.

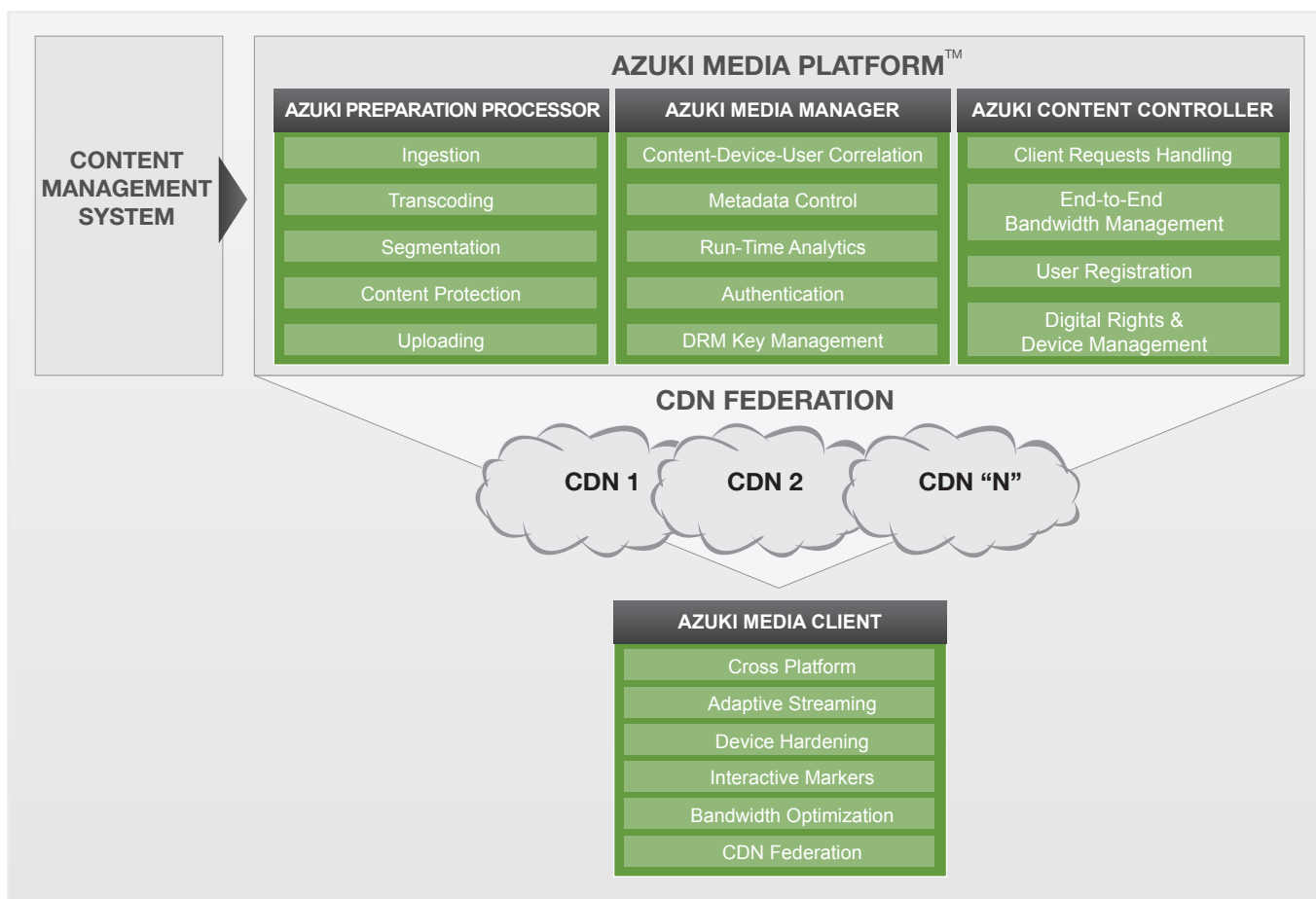
MOBILE APPLICATION AND WEB DEVELOPMENT

- » The Azuki App development tools create full-featured native mobile applications for Apple, Android, Blackberry, and Windows Phone 7 devices.
- » Cross-platform client handles the adaptive bitrate streaming, user authentication and content protection (DRM) processing in the end devices.
- » Configurable templates provide maximum flexibility and functionality that greatly reduces time to market for delivering multimedia Apps supporting multi-screen platforms.
- » Customizable applications maintain brand recognition and provide a consistent user experience.

HORIZONTAL AND VERTICAL SCALABILITY

- » Ease of scale to support the largest deployments with all functionality needed for ingestion, preparation and posting of premium video content.

- » Horizontally stackable products for greater capacity and redundancy.
- » The software profile of each appliance server can be dynamically assigned and changed. This reduces installation costs by tuning the capacity to best fit the needs for data ingestion and transcoding, content protection (DRM) wrapping, user authentication or session-start management.
- » Hardware is reused and can be flexibly assigned for various dedicated functions as the installation grows or demands change. In all cases, data is streamed directly from the CDN to the end-user. This architecture leverages the low cost and dynamic scalability provided by modern content deliver networks.
- » Since the Azuki platform is only involved at the session initiation, it can easily scale to extremely large deployments.



AZUKI MEDIA PLATFORM SPECIFICATIONS

AZUKI PREPARATION PROCESSOR	<p>VOD SOURCE VIDEO FORMATS</p> <ul style="list-style-type: none"> » Containers: FLV, MPEG4, WMV, 3GP, MOV » Video Codecs: H.264, H.263, VP6, WMV3, WMV2, MPV4 » Audio Codecs: AAC, MP3, WMA2, MP4A <p>INGESTION CAPACITY</p> <ul style="list-style-type: none"> » Up to 600 hours of content per month » Up to 3 simultaneous sources 	<p>OUTPUT STREAMING PROFILE CAPACITY</p> <ul style="list-style-type: none"> » Up to 15 output formats/bitrates in real-time » Unlimited formats/bitrates for VoD <p>LIVE STREAM SUPPORT</p> <ul style="list-style-type: none"> » Source Format: Flash RTMP (H.264/VP6) or MPEG2-TS » Live delivery to all supported platforms
AZUKI MEDIA MANAGER	<p>MANAGEMENT AND INTERFACES</p> <ul style="list-style-type: none"> » Web Based Management GUI console as well as full web-based API support » Supports standard interfaces and flexible APIs to integrate with existing CMS, User Databases, CDNs, and Ad Trafficking Networks 	
AZUKI CONTENT CONTROLLER	<p>PLAYBACK CAPACITY</p> <ul style="list-style-type: none"> » Up to 6,000 session starts per minute » Up to 50,000 simultaneous sessions via CDN 	
AZUKI MEDIA CLIENT	<p>CROSS PLATFORM MOBILE VIDEO DELIVERY</p> <ul style="list-style-type: none"> » Apple (phones and iPad) v. 3.0 + » Android (phones and pads) v 2.1 + » Blackberry v4.6 + » Windows Phone 7 	
AZUKI CONTENT PROTECTION	<ul style="list-style-type: none"> » Secure key management, encryption and enforcement of digital rights in both online & offline modes » Device-specific hardening for robust keyprotection <ul style="list-style-type: none"> ▫ Ciphers: AES-128, HC-128, RC4 (drop-n) ▫ Support for streaming and download/play 	
AZUKI MEDIA PLATFORM HARDWARE	<ul style="list-style-type: none"> » Form Factor: 1 RU » Dimensions (WxHxD) 17" x 1.7" x 25.6" » Power: Dual Redundant, 650W AC, hot swap » Hard Drives: Dual Redundant (RAID1), hot swap » I/O: Dual Gigabit Ethernet interface 	