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Ava Cloud Video Security solution

Summary

The Ava Cloud Video Security solution includes some or all of the following components:

- Ava Aware Cloud™ — the cloud-native video management system. It manages the analytics from all cameras, all the time, and provides operational insights into the activities on your premises. The Ava Cloud Video Security solution is expandable, making it suitable for organizations of all sizes.
- Ava Cloud Cameras — award-winning cameras with analytics at the edge and on-board storage.
- Ava Cloud Connector™ — providing the analytics for your third party cameras and the storage for your on-premise Ava Cameras and other cameras. The Cloud Connectors also provide the communications between these cameras and your Ava Aware Cloud video management system.

In addition, with the Cloud Connectors, your Ava Cloud Video Security solution might include:

- Ava Cameras without on-board storage.
- Your existing third party cameras.

With AI-powered, always-on analytics from all your Ava and third party cameras, the simple-to-use cloud-based solution provides intelligent, proactive security and business insights.

Designed to be quick and simple to set up, you can easily add additional cameras or Cloud Connectors to Aware Cloud as your requirements change.

This white paper explains the structure and components of the Ava Cloud Video Security solution and how this provides the Single View™ of all your Ava and third party cameras in a 'single pane of glass'.

Ava Aware Cloud

The Ava Aware Cloud video management system allows for simpler installation and maintenance, and reduced outlay on hardware. Simply purchase the Ava Cloud Cameras, install them across one or many sites and connect them to Ava Aware Cloud. With Ava Aware Cloud, there is usually no need to configure networks or firewalls.

If you have an existing camera infrastructure, incorporate these cameras by installing Ava Cloud Connectors to provide the on-site storage, analytics, and communications for your third party cameras and to provide the storage and communications for your on-premise Ava Cameras.
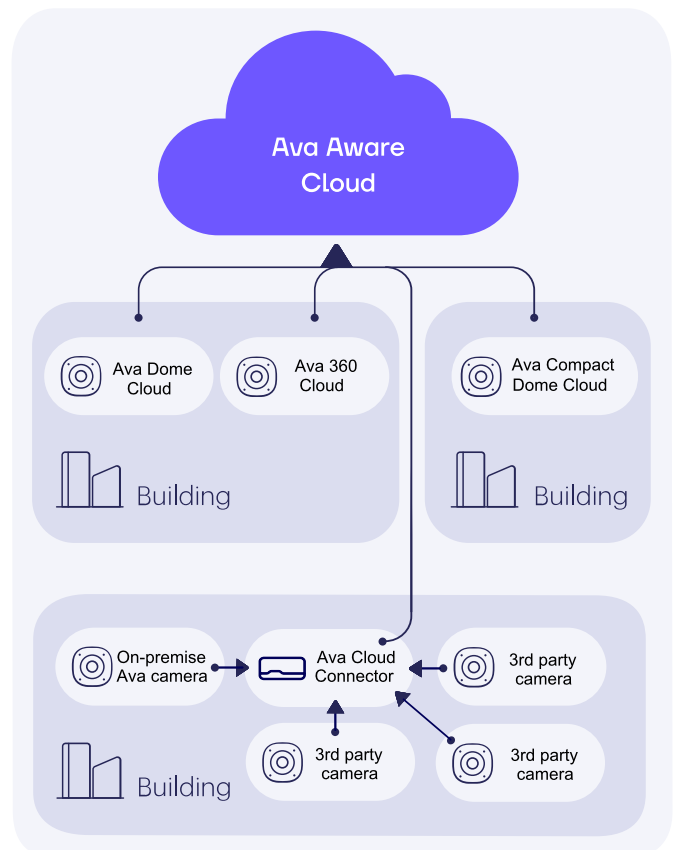

Figure 1 – Ava Cloud connections

Ava Cloud Cameras

Ava has a range of cameras suitable for different situations. The Ava Dome Cloud™ and Ava 360 Cloud™ cameras are vandal-resistant and suitable for indoor or outdoor use, featuring IK10 and IP66 ratings. The Ava Compact Dome Cloud™ is a small-form camera suitable for indoor use.

Each Ava Cloud Camera contains on-board storage and powerful analytics. This removes the requirement for centralized storage and analytics servers that need to be separately purchased, configured and maintained.

The Dome Cloud, Compact Dome Cloud, and 360 Cloud cameras come in black or white, and in a range of resolutions and storage options to meet a wide range of scenarios.

Table 1 – Ava Cloud Camera options

Model	Max. Resolution	Retention options (days)
Ava Dome Cloud (4K)	3840x2160	30/60
Ava Dome Cloud (5MP)	3072x1728	30/60/120
Ava 360 Cloud (12MP)	3008x3008	30/60
Ava Compact Dome Cloud (5MP)	2592x1944	30/60/120

All cameras are designed to be easy to install. Simply connect up to the camera to your network, the cameras then automatically connect to the Ava Aware Cloud. There is usually no need to make network configuration changes, or to open inbound ports in your firewall.

Then add your camera to your Ava Aware Cloud deployment by scanning its QR code. Once added to the cloud, all upgrades are automatically managed from the cloud, meaning there is little need for local access to the cameras user interface.

Ava Cloud Connectors

Unlike some other Video as a Service (VaaS) providers, Ava Security does not expect you to rip out your existing cameras and replace them with new cameras. By including Ava Cloud Connectors™ in your network, you can link your existing standards-based cameras to your cloud-based Ava video security systems. Ava supports the use of Onvif-compliant cameras from a wide range of manufacturers, as well as manufacturer-specific protocols.

The Ava Cloud Connectors perform real-time analytics on the video streams from these third party cameras, and provide the on-site storage needed by these cameras. The Cloud Connectors also provide the cloud-connectivity between the cameras and your Ava Aware Cloud deployment.

With several models to choose from, choose the Cloud Connector that best meets your current and future needs. Depending on the model, Cloud Connectors can accommodate up to 200 cameras and feature an scalable architecture that allows additional Cloud Connectors to be added to your network to handle either multiple sites, or larger numbers of cameras within a site.

Table 2 – Ava Cloud Connector options

Model	Max. cameras	Storage options (net)
Ava Cloud Connector 500	25	8TB, 16TB
Ava Cloud Connector 750	50	32TB
Ava Cloud Connector 1000	75	24TB, 48TB
Ava Cloud Connector 2000	100	80TB, 160TB
Ava Cloud Connector 3000	200	80TB, 160TB

Single View™

By adding Ava Cloud Connectors to your network, you can take the feeds from your existing third party cameras, as well as the feeds from your on-premise Ava Cameras and view them in the same view as your Ava Cloud Cameras. You have a Single View of all your cameras, irrespective of how they are connected to your Ava Aware Cloud deployment.

Video and Audio analytics

Ava Cloud Cameras perform video analytics on the camera, allowing access to high-quality data without bandwidth constraints. The cameras detect the presence of people and vehicles, and trigger alarms without needing to send video to any external device.

For third party cameras, the video analytics is performed by the Ava Cloud Connectors, using the same analytics models used by the Ava Cameras.

All Ava Cameras include either a microphone or a directional acoustic sensor array that perceives the camera's sound environment. The built-in audio analytics detects several types of specific sound event — for example, breaking glass, gun shots, car, smoke, and panic alarms, and others — and audio anomalies — for example, unusually loud noises — and then triggers alerts within Aware Cloud.

Security

As with all Ava solutions, security is baked into the design of Ava Aware Cloud, Ava Cloud Cameras, and the Ava Cloud Connectors. Ava Aware Cloud is always secure, with regular automatic updates of all Ava components.
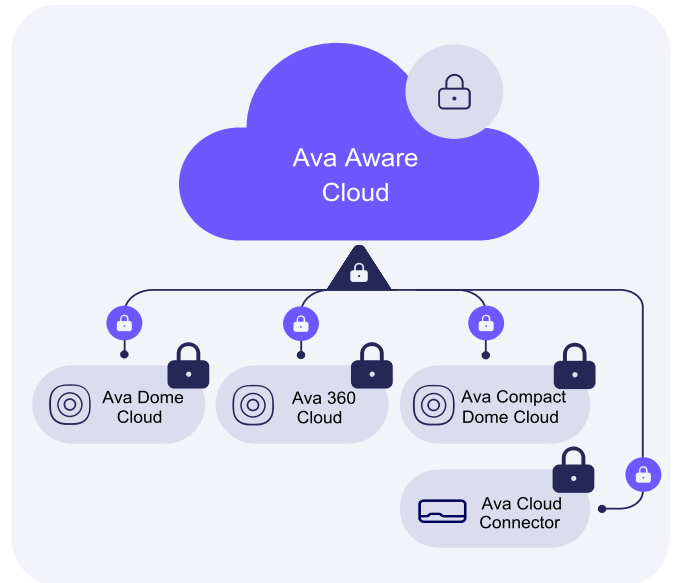

Figure 2 – Data secured in transit and at rest

Ava Cloud Cameras and Ava Cloud Connectors come with security built in. They are equipped with Platform Module (TPM). Each camera and Cloud Connector is provisioned with unique keys and certificates during manufacturing.

The Cloud Connectors and the Ava Cloud Cameras connect to the Ava Cloud using a TLS connection to ensure all data is encrypted in transit. This uses the TPM based keys to authenticate the device to the cloud.

All connections are made outbound from the camera with no inbound connections being required. This means there is no need to open ports in firewalls to make the Ava Cloud solution work, giving both security and ease of install.

All recordings and metadata are encrypted at rest in both the cloud and the camera. The encryption key is unique to each deployment. This means that any theft of cameras cannot lead to leakage of your stored recordings.

Access to the cloud, to Aware, and cameras are all protected via Ava's flexible permissions system. Different users can be given access to different features and to different cameras within a deployment allowing for true enterprise-level control.

For each Ava Aware installation, you can allow or restrict access for Ava and your Ava partners, and control the scope of any access that you do grant.

Single sign-on

You can configure your Aware Cloud deployment for single sign-on using Security Assertion Markup Language (SAML). This enables your Aware administrators and operators to log into Aware Cloud using the same identity provider and authorization credentials as you use for your other corporate cloud services and systems.

Two-factor authentication (2FA)

For additional security and in cases where single sign-on is not available, you can require your Aware Cloud users to use 2FA when logging into your deployment. Using an additional authentication method at log-in makes access to your critical video management system more secure.

Ava Aware Cloud architecture

This provides a powerful, modern video management system designed from the outset to be easy to set up, manage, upgrade, and use.

The Ava Aware Cloud consists of two separate layers. Theses layers are:

- A centralized set of core services available to all deployments, to provide upgrades, Ava Smart Path™ media routing and the Deployment Management Portal (DMP).

- Multiple ring-fenced Ava Aware Cloud deployments, each configured specifically for an individual customer.

Ava Smart Path™ intelligent media routing

Ava uses its webRTC-based Smart Path technology to intelligently route the media streams from your Ava Cloud Cameras to find the optimal route. This ensures the highest possible video quality is used while also ensuring your network is not over-saturated by unnecessarily high-bandwidth video.

Individual deployments

The cameras and Cloud Connectors connect to your Ava Aware Cloud deployment. Each deployment is a fully independent instance in the cloud, which means that your deployment is fully isolated and protected from others customers' deployments. It allows you to use the full power of Ava Aware, creating the users, permissions and rules that you need, safe in the knowledge that these are not shared with any other deployment.

Since each deployment is separate, you have full control over setting an appropriate maintenance window. This means upgrades can be done when appropriate for you, rather than being forced centrally.

With you in full control of your deployment, access is only granted to your system for the users you set up. Neither Ava or your partner has access to your deployment unless you specifically grant access, which you can rescind at any time.

Each Ava Aware Cloud deployment provides you with a rich experience, with all the tools you need. Due to the expandable architecture, there are no limitations to the number of cameras for yourAva Cloud Video Security solution.

Security

Ava Security is a global technology company with offices in the UK, Norway, and the USA. It was founded in 2016 to create a better, smarter way to deliver security. Ava protects people, property, and data anywhere.

Innovative companies worldwide use Ava Reveal™ for human-centric data loss protection and Ava Aware Cloud™ for video security and analytics.

To learn more about Ava's smart solutions and how you can enjoy proactive security, visit our website or schedule a demo with a member of our sales team at sales@avasecurity.com.

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