

MediaKind

Cygnus Distribution

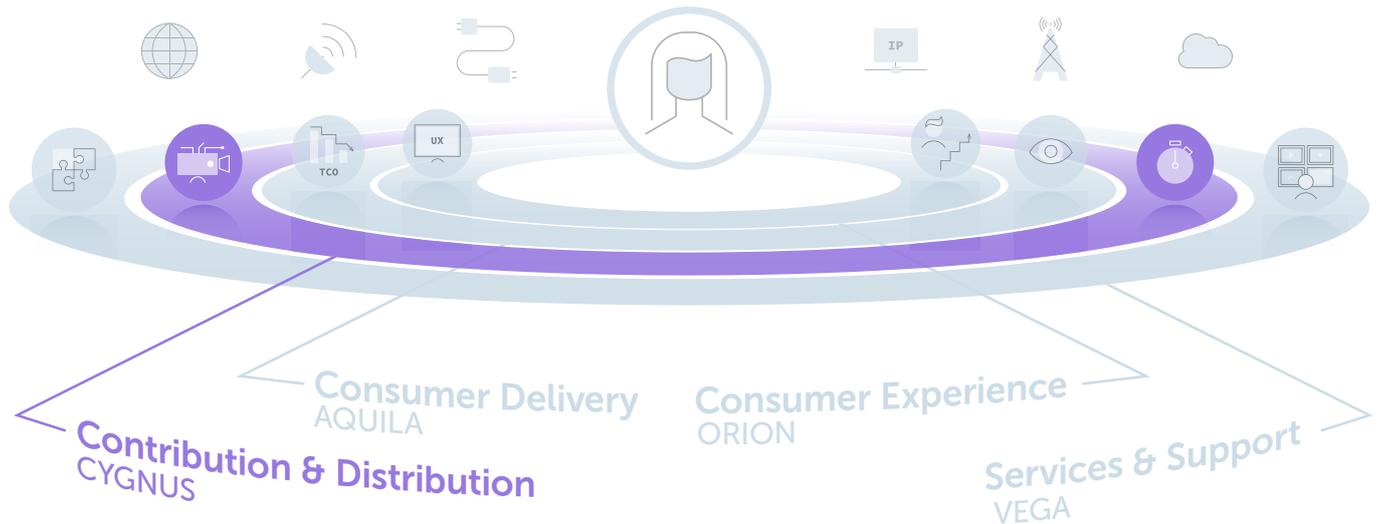


CYGNUS

Contribution & Distribution

Cygnus Distribution professionally distributes and delivers media content cost efficiently, securely and reliably with high quality and low latency via satellite or IP networks

MediaKind Universe – Contribution & Distribution



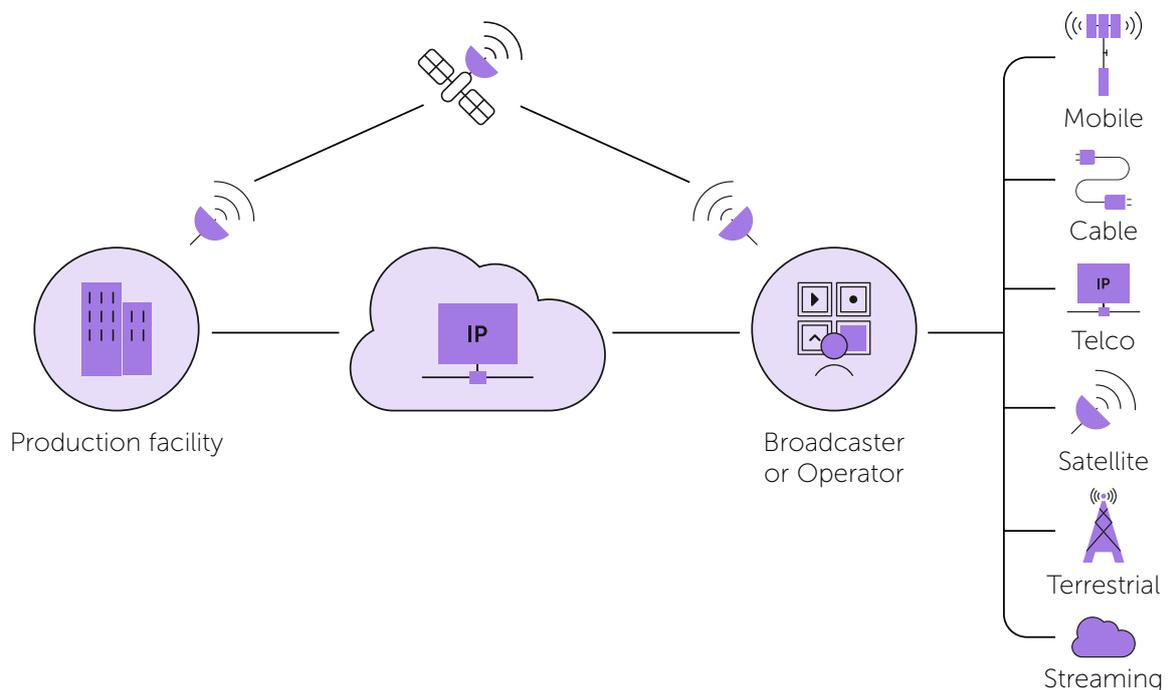
MediaKind's innovative Contribution & Distribution solutions enable content providers, broadcasters, operators and service providers to securely and reliably acquire, backhaul, and distribute the highest quality content anywhere, which ensures viewers around the world never miss a minute of the action.

Cygnus Distribution is a new generation solution for primary distribution applications from MediaKind. Whether it is the professional distribution of live events such as sports matches, or the distribution of 24/7 channels, Cygnus Distribution enables this to be delivered securely, reliably and in high quality whether that be via satellite, or IP network, or a combination of both networks.

Primary Distribution

A typical Primary Distribution system or workflow enables the delivery of media content over satellite or IP networks of either individual programs, such as live sports coverage, or 24/7 linear channels from the content creator to broadcasters and operators who, in turn, take that content and deliver it to their customers, the consumers. This is typically via their delivery network of choice whether that be via a mobile network, cable, broadband, satellite TV or terrestrial TV.

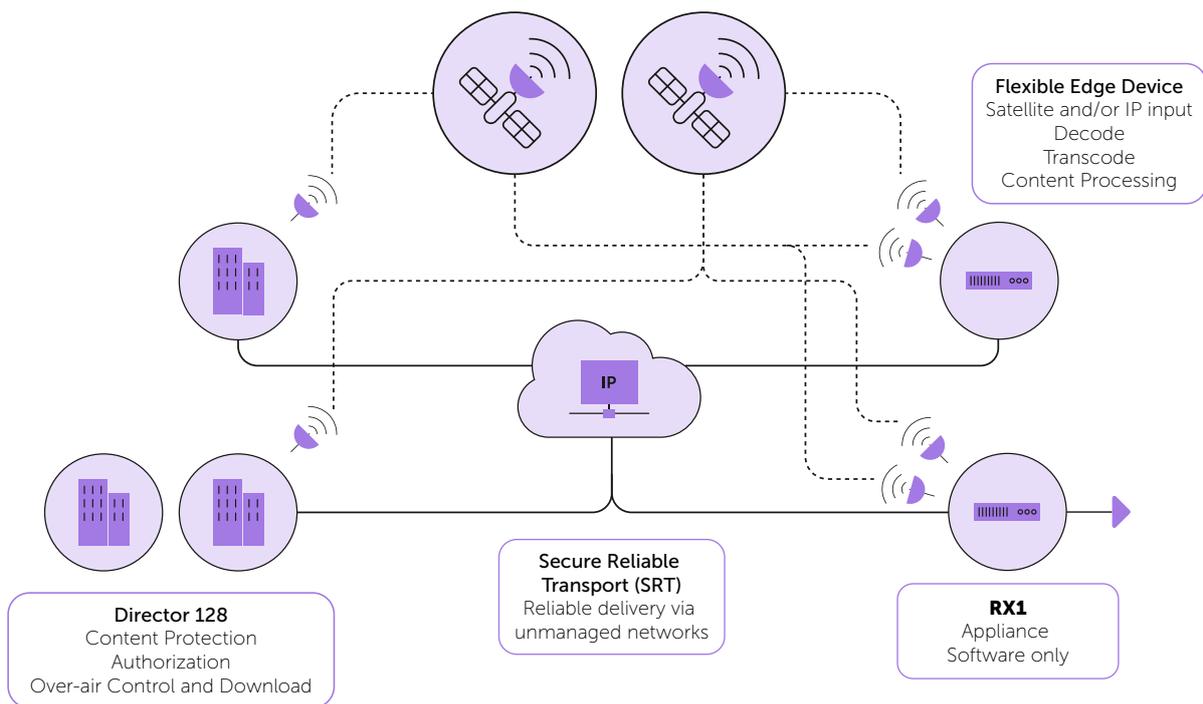
A typical Primary Distribution system workflow



Solution applications and values

Cygnus Distribution addresses a number of different primary distribution use cases and applications with distinct values enabling content owners, broadcasters and TV operators to maximise their investment whilst maintaining the quality and low latencies required for professional media distribution.

Cygnus Distribution solution workflow



Transmission Efficiency

The cost of transmission, whether that be the cost of leasing satellite transponder capacity, or the cost of IP bandwidth, is usually the most significant operational expense, so minimizing the transmission bandwidth required is key to cost efficiency. This can be achieved in a number of ways such as:

- Using a high performance video codec to minimise the required transmission bandwidth for a given picture quality.
- Transmitting only the highest quality version of the content and converting to lower quality formats as required at the edge.
- Using a lower cost transmission channel such as the internet.

Cygnus Distribution enables the broadcaster or content owner to use all of the above techniques. The solution supports HEVC encoding, decoding and transcoding, including statistical multiplexing, to minimize the bandwidth required and therefore the transmission cost.

At the heart of the Cygnus Distribution is MediaKind's RX1 which is the edge receiving device enabling only the highest quality, highest resolution variant of the content to be transmitted, downconverted and decoded or transcoded to the required format at the edge. This includes the ability to convert HDR (High Dynamic Range) video to SDR (Standard Dynamic Range), and to convert wider colour gamut Rec.2020 video to Rec.709 colour space adapting the content to the required resolution.

Cygnus Distribution also supports SRT (Secure Reliable Transport) which enables error free, secure, transmission of content via unmanaged networks including the internet.



Low Latency

There is always a desire to minimize any latency introduced by a distribution network and this is particularly true for live sports. Latency introduced within any media delivery chain delivering live content has ramifications on the consumer experience when viewing multiple devices and also for betting applications. Ensuring low latency within the chain means delivering a more real time experience for the consumer and avoids certain issues such as score notifications prior to watching the action on the selected device.

Cygnus Distribution offers a number of different operating modes to allow the operator to choose the latency, bandwidth, picture quality trade-off that best suits their needs.

Additionally the Cygnus Distribution delay for a statistical multiplexing solution is typically 2s lower than most competing solutions on the market today.



Content Protection

Preventing unauthorised access to high quality and therefore high value versions of content such as live sports is very important as this secures valuable revenue streams within this area of the content distribution chain.

Cygnus Distribution provides the latest in content protection technology with Director 128.

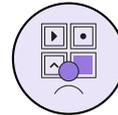
This product within the solution provides a powerful 128 bit rotating key based encryption solution making it extremely difficult for those attempting piracy to access the content.



Reliability

99.999% reliability or better is often required for distribution systems due to the high cost of any failures, particularly when premium sports content is involved. This ensures that content is always available for consumers and any off-air time is minimized reducing possible consumer churn, heightening brand reputation and maintaining revenue streams.

Therefore, reliability and high availability are key attributes to the architectural design of Cygnus Distribution. 1 + 1 or n + m redundancy models are supported as well as geo-redundant central distribution sites. A hybrid IP and satellite distribution system can also be supported within the solution.



Operational Flexibility

Management of a primary distribution system can be complex with the need to ensure that customers only receive the content to which they are entitled. This can change on an event by event basis, particularly if live sports content is involved, with regional blackouts, and flexible timing of events.

Cygnus Distribution, through the use of the well established nCompass Director management platform has a rich feature set enabling control of parameters per event, and per affiliate or group of affiliates. This includes enabling or disabling access, or switching to alternative services as required, ensuring that the correct content is received by those expecting it.



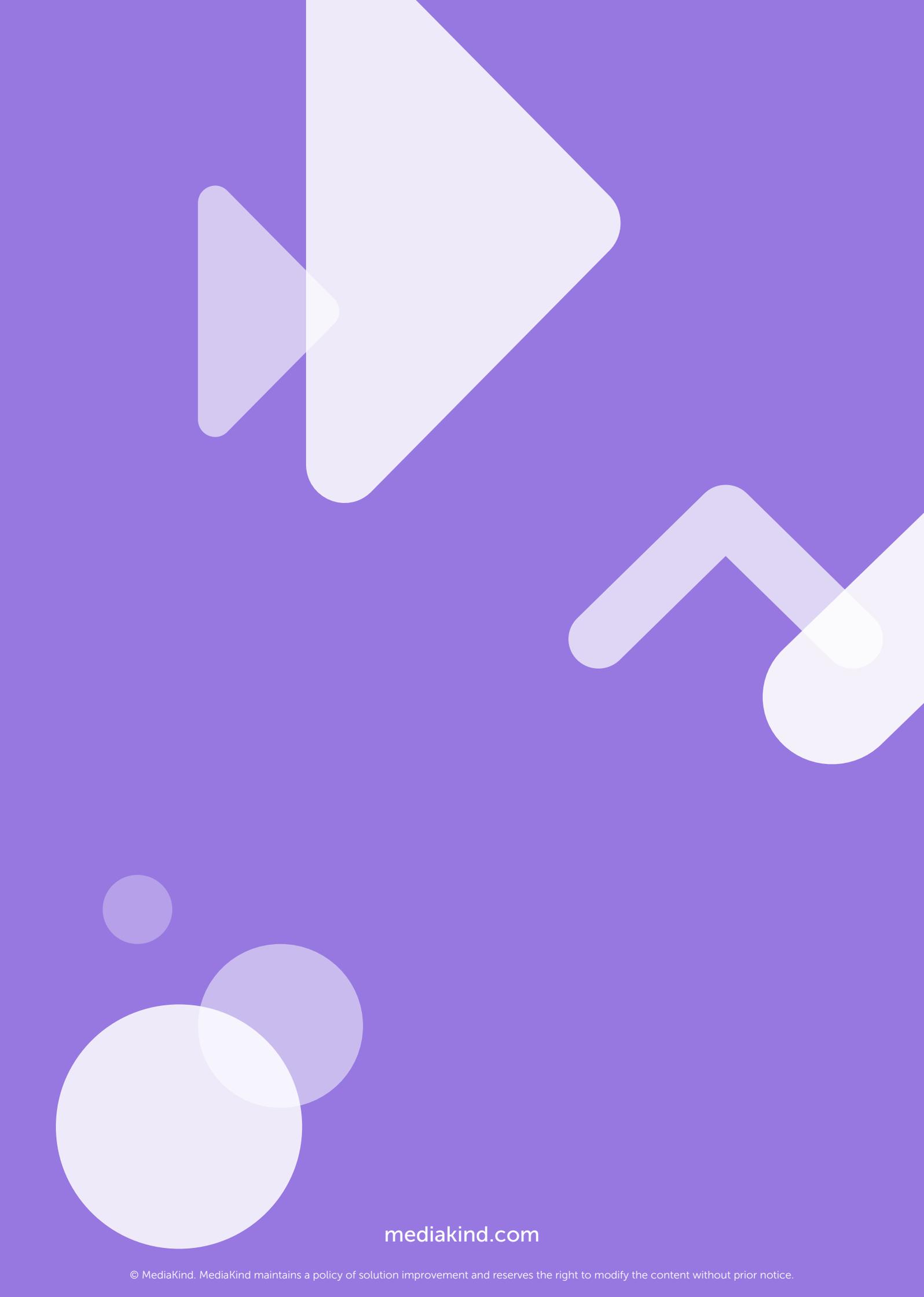
Future Proof

Primary distribution solutions are often large and complex systems, with geographically separated nodes. Therefore they can be expensive to install or replace over time. By investing in a solution that is future proof and which can be scaled in size and functionality is key to minimizing the TCO (total cost of ownership) throughout the lifespan of the system.

Cygnus Distribution is built around software components, including an edge device, the RX1, which means it is much easier to expand the functionality both in terms of scale and new functionality than is the case for solutions based on application specific appliances. In fact, if all interfaces within an architecture are IP, then all the functional units in the solution can be deployed as software only, and the central processing hub can be deployed in either a public or private cloud. This ultimately means the benefits of cloud based systems can be leveraged leading to enhanced scale, flexibility, accessibility and rapid time to market for some content.

MediaKind's Cygnus Distribution solution enables a broadcaster or content owner to securely and reliably distribute content, whether it be time limited events or 24/7 linear programming, whilst minimising the operational and transmission costs. It can support satellite, all IP or even hybrid satellite/IP solutions.

The fact that it is based around software components and can be deployed as traditional appliances or software only, even including cloud deployment, means that future proof is built in and it is able to adapt and evolve as business and operational needs change.



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