WHITE PAPER

Cloud Distribution Solution for Broadcasters

INTRODUCTION

MISTiQ is a low-latency streaming platform for broadcast program distribution over the public internet utilizing advanced technologies to enable high-availability. It's a technology platform offered as a managed service.

Network operators are increasingly seeking to leverage internet infrastructure and reduce costly satellite service contracts. The internet is not a hospitable environment for realtime distribution so **MISTiQ** was designed to replicate the broadcast workflow and broadcast-quality latency over IP.

Who should consider MISTiQ:

- Broadcasters who want to migrate from satellite to terrestrial IP distribution
- Presenters of live events and/or occasional use (e.g., sports, awards shows, special events)
- Broadcasters looking for backup to their satellite networks
- Networks that need to add sites beyond their satellite footprint

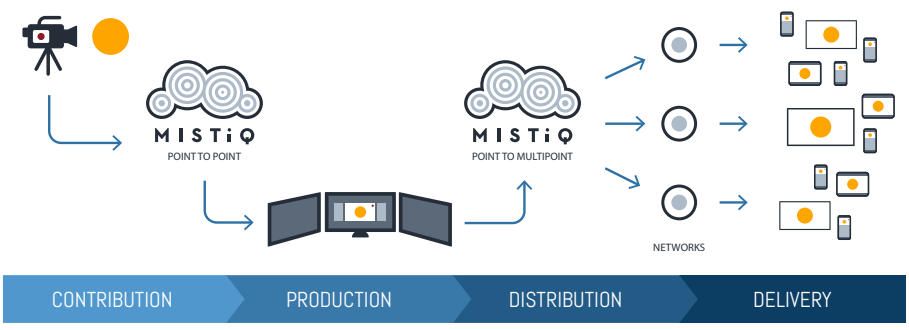
Applications: MISTiQ is an ideal solution for broadcast networks of all sizes—radio and video—as well as live events/digital cinema.

INTRODUCTION	1
ADVANTAGES	2
INTERNET CHALLENGES	2
MITIGATION STRATEGIES	2
TECHNOLOGY STACK	3
GETTING CONNECTED	3
CYBERSECURITY	4
CLOUD HOSTING	4
KEY TAKEAWAYS	4

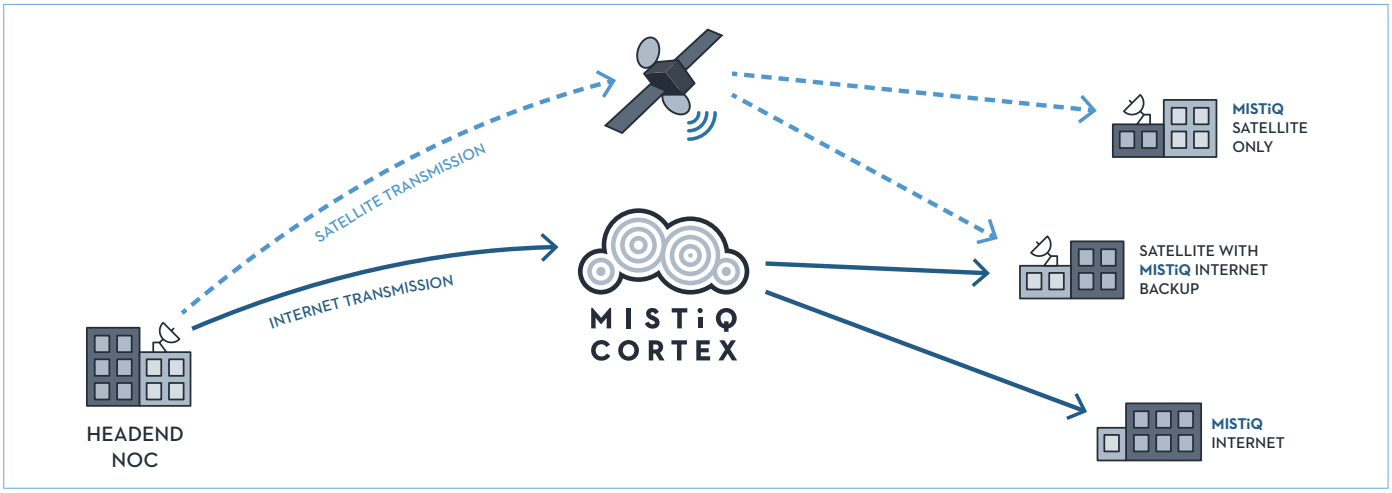
MISTiQ offers

- Full-featured broadcast quality network program distribution
- High-availability/low-latency
- Comprehensive star topology (point-to-multipoint) distribution
- Point-to-point: configurable in a point-to-point (mesh) mode with no central cloud distribution hub, providing low latency but centralized metrics reporting.

Live Media Over IP Delivery Chain



MISTiQ manages contribution, production, and distribution elements of the live video over IP delivery chain.



CHALLENGES OF USING INTERNET

The internet is an inherently challenging distribution medium for broadcasters fraught with perils:

- **Packet loss:** congested Internet routers discard packets
- **Jitter:** packets delivered out of sequence
- **Delay:** latency from sender to receiver
- **Bandwidth:** varying capacity from sender to receiver
- **Broadcast-quality signals in an IT environment:** difficult to configure, monitor, and troubleshoot
- **Security:** Internet is a high-risk environment

MITIGATION STRATEGIES

There are multiple ways to overcome these challenges:

SRT: Secure Reliable Transport protocol

SMPTE ST 2022-7: protocol for seamless protection switching of IP

Geo-diverse Cloud POPs: High availability network design

MISTiQ: SECURE, RELIABLE

MISTiQ incorporates all of these mitigation technologies to provide reliable data transfer, audio and video timing recovery, and simplified firewall traversal, as well as network health monitoring. Based on the traditional UDP protocol, MISTiQ is designed for use in the broadcasting ecosystem for Contribution, Production and Distribution—everything except Delivery "Last Mile." Typically "Last Mile" solutions are built on TCP which has been optimized for data integrity but can have long delays which are unacceptable in professional broadcast distribution.

MISTiQ is content agnostic and is increasingly replacing legacy distribution technologies such as RTMP.

SRT ALLIANCE
SECURE RELIABLE TRANSPORT

SMPTE

MISTiQ TECHNOLOGY STACK

MISTiQ features a modern microservice-based design, which provides resilience and scalability. Each element operates independently for comprehensive redundancy.

Elements of MISTiQ:

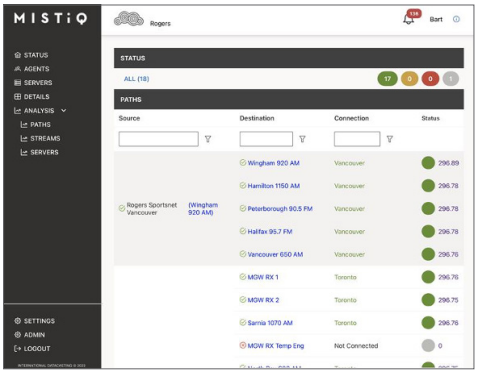
- **MISTiQ Cortex drives:** configuration, authorization, SSH Tunneling, Agent control,
- **MISTiQ Synapse:** sends SRT data to the agents
- **MISTiQ Manager:** for Zero-Configuration Networking of Agents
- **MISTiQ Agent:** remote client for receiving services and reporting detailed metrics
- **MISTiQ Monitor:** advanced diagnostics and metrics with proactive email alerting

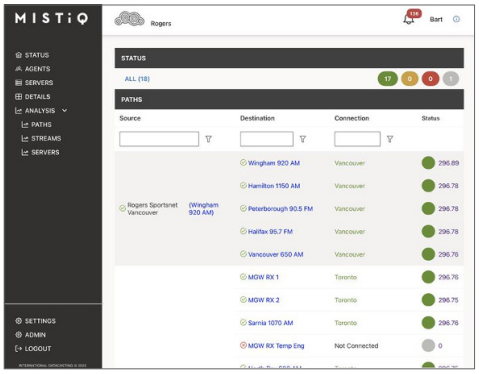
These elements can be collocated or configured for a geo-diverse distributed architecture for high-availability

GETTING CONNECTED

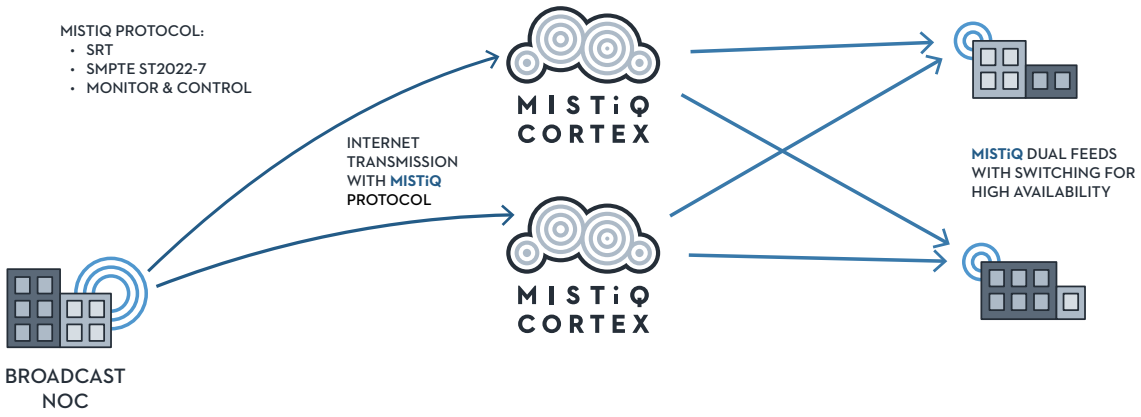
MISTiQ is easy to launch, easy to configure, easy to use:

- Works on existing infrastructure or with any cloud (IaaS) provider
- Zero-Config for plug-and-play installation
- User-friendly GUI for simplified operation
- REST APIs, for integration with existing workflows





MISTiQ provides high availability via Private Network and Internet IP networks utilizing packet loss mitigation



CYBERSECURITY

A critical part of any network exposed to the internet is a strong, up-to-date, cybersecurity strategy.

- **MISTiQ** networks feature secure device control, so only authorized devices receive content
- End-to-end encryption options available
- Fortinet firewall protection for each **MISTiQ** cloud element available as an option

KEY TAKEAWAYS

- Distribution over IP as a service, migrate from heavy CapEx investment to OpEx.
- Low and consistent latency
- Point-to-point: Can be configured in a point-to-point mode with no central cloud distribution hub, but still reports QoS metrics.

CLOUD HOSTING OPTIONS

MISTiQ works with any IaaS cloud provider (AWS, Azure, Google Cloud et al).

We have partnered with Anexia to provide simplified and competitive no-surprise pricing plus personalized, broadcast-aware customer service.

We can take care of the service for you, or you can manage it on your own.

WE ARE EXPERTS IN TRANSITIONING NETWORKS. WE CAN HELP YOU.

Find out more at datacast.com

Contact us to schedule a presentation and/or demo at **sales@datacast.com**

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