2021 TECH FEST

AIMS
Alliance for IP Media Solutions

PRESENTS:
IPMX and Remote Audio Production

The show must go WAN

Claudio Becker-Foss
DirectOut

The Situation

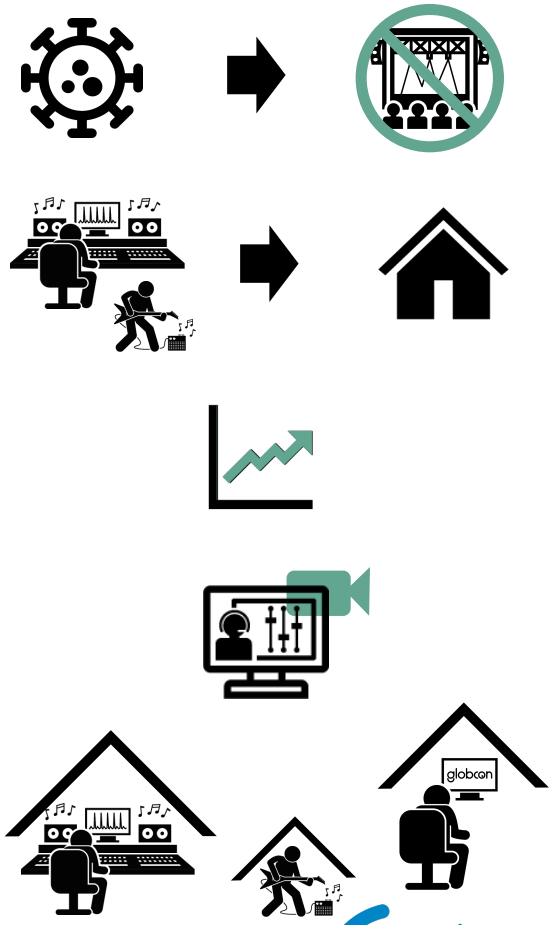
COVID-19 Pandemic forced production methods to change

Many people work from home, including artists, talents, hosts of shows etc.

Need for Remote Production increased drastically

Video Conference software uses heavy encoding/compression of audio and video

How do we make remote mixing, recording & production possible?



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Rick Camp
Remote Mixing

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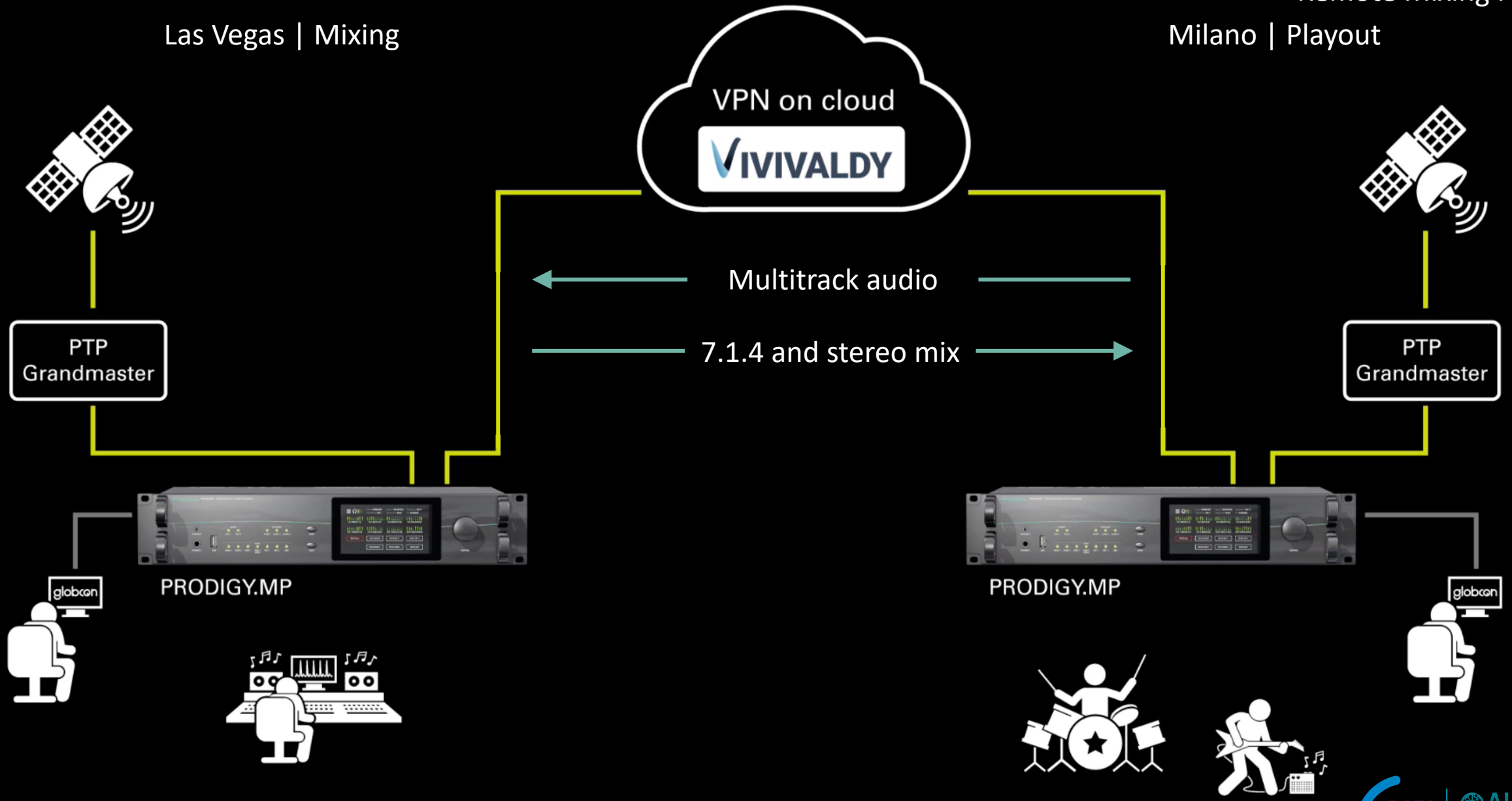
Audio Production

Remote Mixing POC

Las Vegas | Mixing

Milano | Playout



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Remote Production with Standard Internet

Photo courtesy of Protostream, LLC

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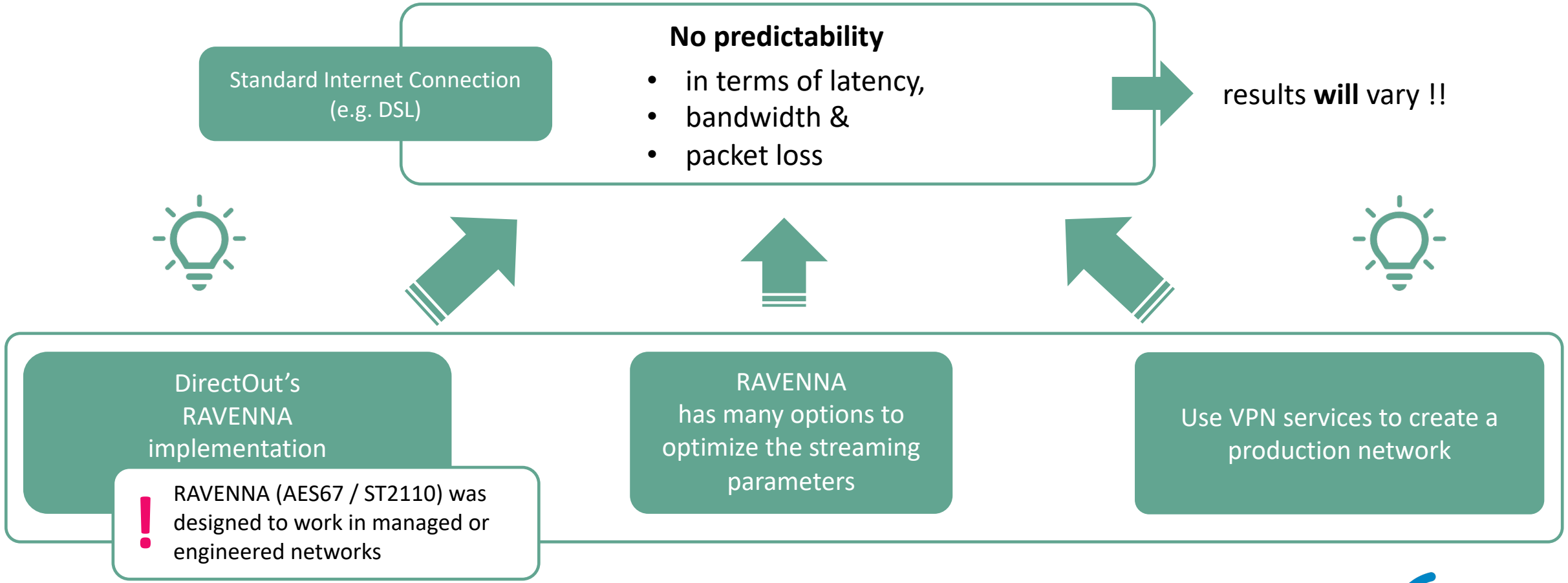
Challenges



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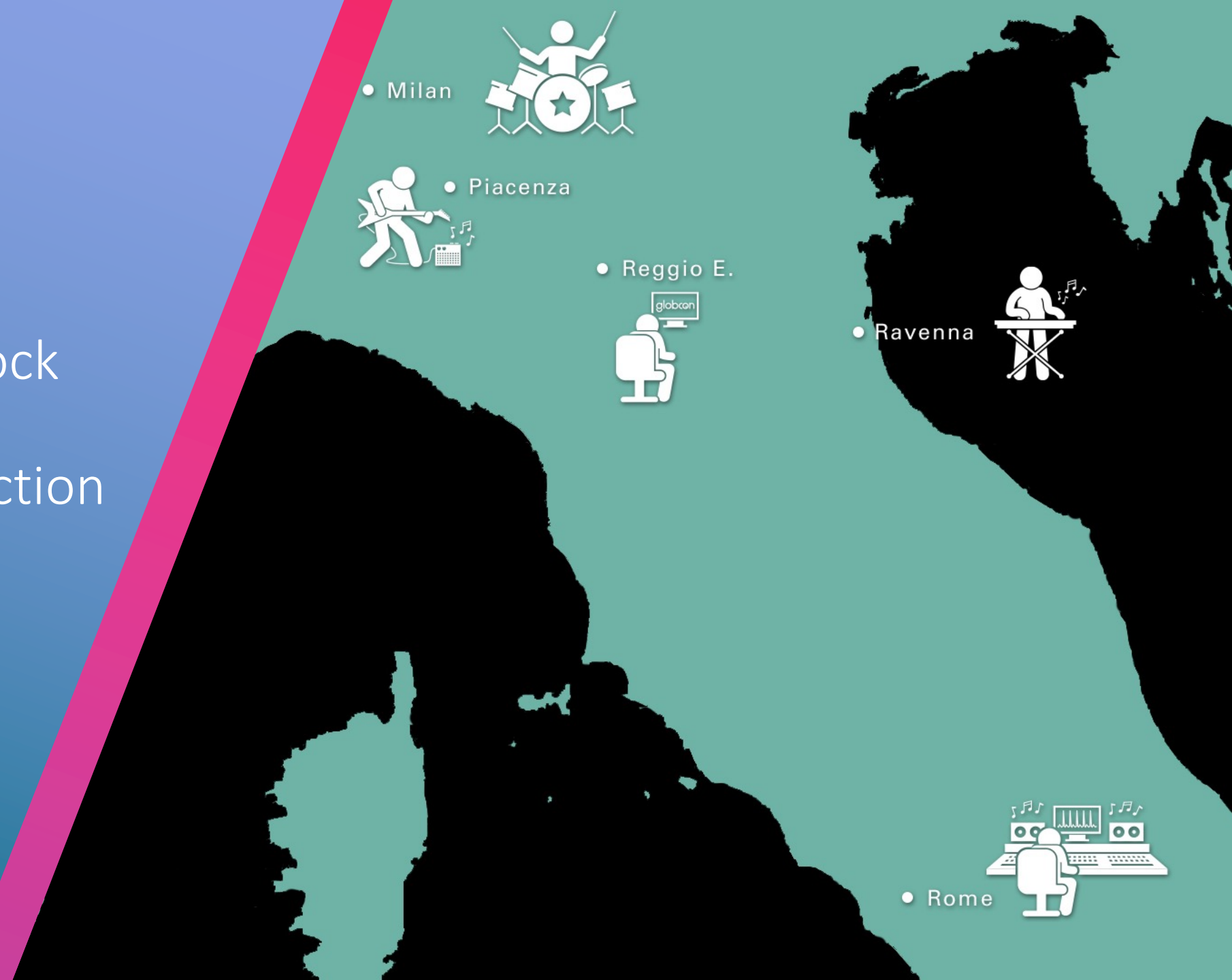
Lockdown Rock

Remote Production



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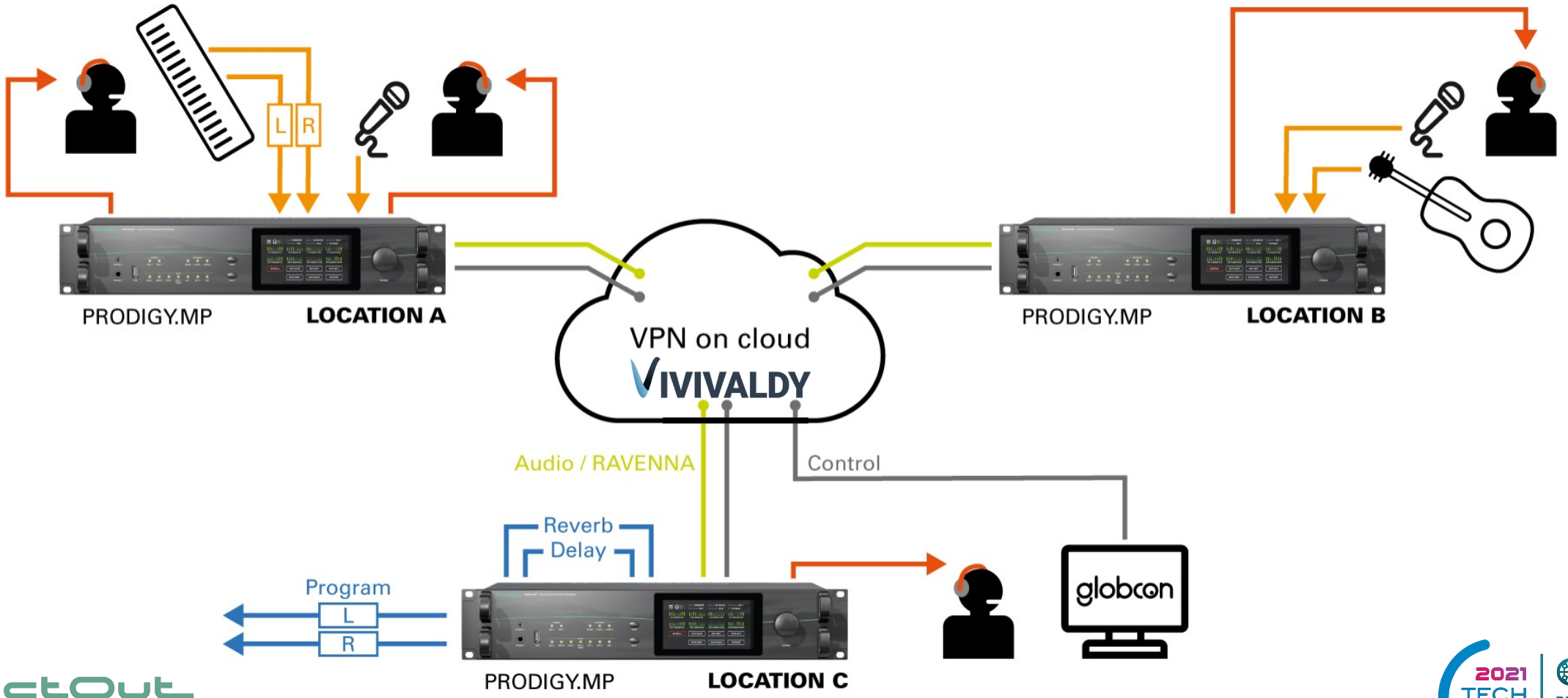
The Setup



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LOCKDOWN ROCK

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Constraints & Prerequisites

Using **public internet connections**, there are **no means to modify/configure the network** (switches, etc.)

VPN

- required to put all devices in a virtual network
- needs to be powerful and well configured

Consider using a professional consultant or service to provide that

Packet drops

- Use stream redundancy (ST2022-7 for Multicast, Unicast Redundancy available on DirectOut devices)
- Optional use of reliability protocols, e.g. SRT

Packet jitter

- PTP: apply **Jitter filters** to reduce PTP jitter on the receiver
  → apply SRC if required
- Streaming: **Large input buffers** (several 100ms) are required to accommodate the packet jitter
  → Large buffers increase stream delay
  → use low-latency streams for monitoring only, where packet drops may be acceptable

If Multicast traffic cannot be used, **Unicast is required** for streaming and PTP distribution.

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Remote Production over Standard Internet

VIVIVALDY **ViViD** DirectOut TECHNOLOGIES

- collaboration between Vivivaldy & DirectOut
- customized service to easily setup remote productions using standard internet connections

- Plug & Play Solution
- VPN & cloud-based → maximum security
- Integrated redundancy concept
- Low-latency and high-reliability
- Local mixing, sound processing and monitoring
- Remote control

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Thank you for your attention!

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