HIGH PERFORMANCE GLOBAL NETWORKING – SUPPORTING GLOBAL PERFORMING ARTS

Often high-speed Research and Education networking is seen as a technology focused on supporting "Big Science" such as CERN, Radio Astronomy, Space research and other huge, expensive projects but the reality couldn't be further from the truth.

While large research projects have often been the driving force behind the advanced networking technologies used by the National Research and Education Networks (NRENs), these services are available to the whole R&E community and many other faculties are taking advantage of the opportunities to revolutionise the way they work. Marianne Løkke Jakobsen, Director of International Affairs at the Royal Danish Music Academy explains how high performance networking can transform their work.

Music and Performance have always been international with musicians, conductors, singers and tutors coming together across countries and even continents to work together. However this constant travelling takes its toll on everyone and is of course extremely expensive. It also limits the ability of emerging artists to work together as they have limited resources to travel to work with coaches or to attend auditions.

The Royal Danish Music Academy has been using high performance network services to support high quality international teaching.

Within a normal skype call or even a business to business video conferencing session there are delays in communication often with noticeable lag within a conversation. We can cope with these delays in a meeting context but if an artist is practising with an orchestra in a different country then any significant lag makes performing impossible. Also most services use compression techniques to minimise the cost or maximise the revenues and these reduce the quality of the audio as well as add extra delays. By using high performance networking services it is possible to reduce these delays to within acceptable limits for live performance.

But of course the staff using this technology are not IT experts and so much effort is needed to make the services easy to use.

"The focus of the staff should always be on the teaching not on the technology. The staff are using technology to help them do their jobs and so it should be as invisible as possible" explains Marianne.

"When dealing with world-class performers or coaches it is vital that we don't waste time trying to get the network working – reliability and dependability are essential".

Moving a physical art form into a digital platform

The performing arts are, of course, a physical art and there are still some limitations to what technology can do. For example a voice coach can't feel how a singer is using their diaphragm while singing if they are 2,000 miles away but technology can support new, exciting ways to help.

For example, using high resolution cameras a coach can zoom into within inches of a singer's throat without distracting them – far closer than they could get while standing beside them and multiple camera angles can be used to show the entire performer.

"The important aspect is not necessarily to try and replicate exactly what is done at the moment but to look at the opportunities of the technology rather than focus on any limitations."

High Performance Networking supporting on-line auditions

One of the projects the Royal Danish Academy of Music is working on is a series of international auditions using R&E networks to bring the performers, orchestra and jury together.

Rather than all the performers having to travel around the world only their image and their voice needs to make the journey.

Linking up 5 sites in 3 continents the network allows the Copenhagen Jury to audition performers without the time and expense of travelling. This makes the audition process quicker to organise and complete as it is no longer necessary to synchronise the diaries of all the attendees or block out many days of travelling.

"The situation of travelling is even worse for singers as they often need many days after a flight for their vocal cords to adjust so even a half day audition may take a week out of their schedule. By using these network auditions we can produce a shortlist very quickly and much more cost-effectively."

Pictures
Royal Danish
Music Academy

Quality is key

The important factor of all these activities is the quality of experience for all the participants to ensure that everyone gets the best possible experience and that the coaching is not affected by the technology. The use of high performance networking is not a way to reduce the costs of teaching but a way to improve access to experts and experiences from around the world.

Network Performing Arts Production Workshops (NPAPWS)

The development and delivery of these innovative uses of networking is a complex and challenging activity and since 2003 NPAPWS have been held to help support the use of these services. Initiated by Internet2 and now supported by GÉANT and GARR, the 2017 workshop was held in Copenhagen on 3-5 April and featured many workshops and seminars to help advance the use of network technologies in the performing arts.

For more information visit:

http://www.dkdm.dk/

https://npapws.org

https://www.geant.org/People/ research_communities/Pages/ NPAP_workshops.aspx