

# Morpheus Playout: Remote Operation Examples

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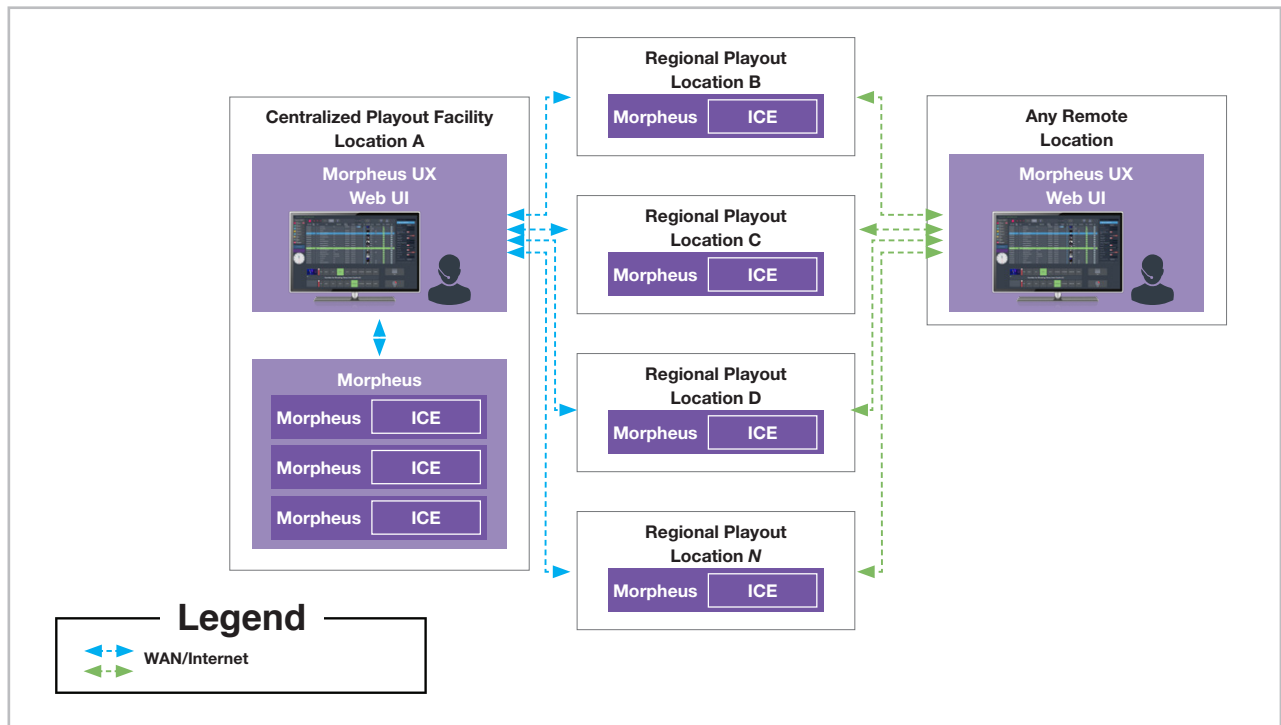
There are several scenarios where broadcasters need to operate from a central facility and also be able to operate their remote, geographically spread systems. This is required in order to provide regionalized content, whether that includes program material or local commercial material. Being able to provide local commercial material is important so that local businesses are targeted and to maximize revenue from local advertisements. In the case of Managed Service Providers, it is sometimes desirable to provide customers the added value service to securely and remotely access playout operations to review the running playlist.

## Regionalization

### Typical Operating Scenario

Under typical circumstances the operational control positions are located at the central facility. Operational staff manage and run origination from this facility while also being able to manage the remote facilities. Via the Morpheus UX HTML5 web UI, the systems in the central facility are controlled using a thin client web browser. The UX user interface can be customized to provide a vast array of different interfaces depending upon the genre of the channel. For example, for a thematic channel where minimal operational interaction is

required, a simple list view can be used. For complicated live sports channels, master control functions can be used so as to allow the operator to interact with the schedule and operations such as hold, take next, skip next, manual inserts of different live feeds, etc. Morpheus UX can be tailored to suit any channel type. Another key feature of the UX interface is its responsiveness. This is very important, especially when carrying out master control type operations.



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### Exceptional Operational Scenario

Consider a situation where Morpheus/ICE payout systems are all running normally, but for whatever reason the facilities are compromised in some way and thus operational staff cannot be physically on site. In a scenario like this, they can use the Morpheus UX web interface to connect to the systems and thus operate them from any remote location. Connections from the remote location to the Morpheus/ICE systems are via secure connections over the public Internet.

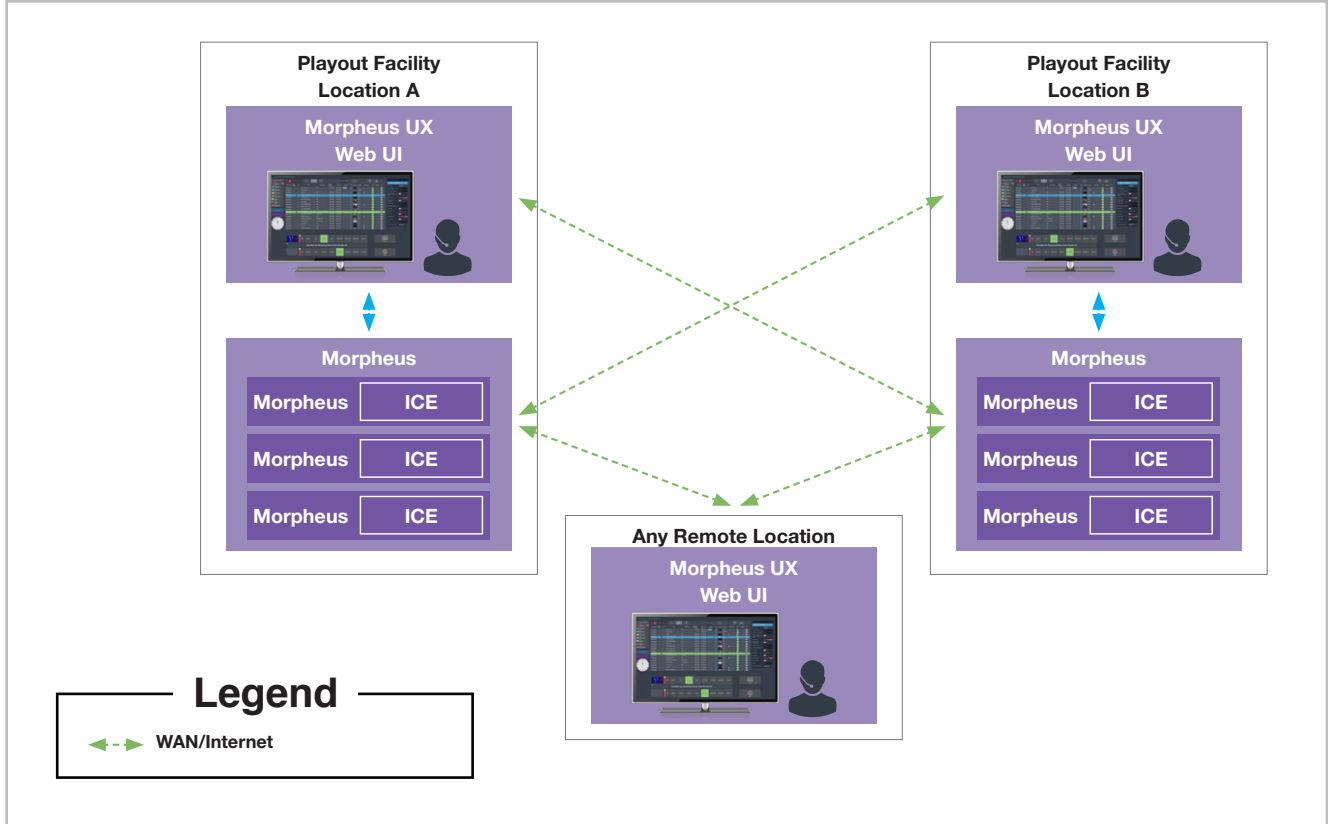
So from the remote location, which could be the operator's home, the UX UI can be connected to the system that needs to be operated. The desired user layout is selected for the type of channel(s) being controlled and remote control can be achieved.

In order to allow the operator to have confidence that changes to the schedule and the channel output are being enacted correctly, the system can be configured to generate a confidence feed using an HLS stream, for example. This stream can then be displayed in a suitably designed UX screen to show the output of the system. Also within UX, each event within a schedule can have a thumbnail associated with it. This again provides confidence to the operator that the material they expect to see is actually the material within the schedule and is thus good to go to air.

Any of the facilities can be remotely controlled by multiple operators from multiple remote sites thus allowing business as usual. All achieved with no more than a web browser running on the operator's laptop/desktop machine. No other prerequisites are required, any computer using any operating system than can run a Google Chrome browser can be used.

### Redundancy Model

Remote operation is not just used for geographically spread regional systems. It can be used with any Morpheus system where the operator is, for whatever reason, not located in the same building/site as the Morpheus/ICE hardware/software. A good example is when a distributed redundancy model is used. In this system configuration there are two sites, A and B. They are normally running in a synchronized mode and the origination of channels might all be from one site or spread across the two. In the event that one site becomes compromised, i.e., employees are not allowed on the premises, operation staff in the other site can take control remotely. Operational staff can also control the compromised site from any location, it is not limited to the non-compromised site. One major broadcaster using Morpheus is using Morpheus UX to aggregate control over 18 different payout systems in different geographical locations.



## Service Providers & Remote Schedule Monitoring

Another application for the Morpheus UX UI is for remote schedule monitoring. Service Providers host many different broadcasters from one central facility. In this multitenancy scenario, the actual broadcaster's main production and administration staff are located at a different site, only the actual broadcasting infrastructure is located at the Service Provider's premises. In this situation, the Service Provider can allow the broadcaster to have read-only access to their system using a secure connection. At the broadcaster's facility, numerous read-only UX screens are used to allow them to observe their channel outputs as provided by the Service Provider.

