

Morpheus ICE combines **standard IT hardware** with **industry-leading automation software** to deliver a package which is not only a powerful standalone automation system but a scalable platform for expansion and growth as well as a building block for adding capability to larger automation systems.

In a single device ICE delivers a level of functionality which normally would require several products from a variety of manufacturers to achieve. These include internal storage of up to 1 Terabyte (plus connection to external NAS for expansion), a full-featured master control mixer, a graphics engine and of course the unrivalled excellence of Morpheus automation software with Media Ball secondary event management.

Morpheus ICE is a truly flexible automation building block, it can be used to implement a multi-channel system by configuring several ICE's to work together, or it can be used to add a low-cost backup, preview or regional opt-out channel to an existing Morpheus installation. From scheduled channel playout to web and mobile delivery, ICE can do it all.

Drawing on Snell's 30 years of experience in broadcast engineering and media-oriented Information Technology, Morpheus ICE is the proof that not all automated transmission playout systems have to be complex. It is simple and easy to deploy, and can fully manage the delivery of back-to-back video, audio and graphical content, in new or existing playout environments, as well as being able to integrate smoothly into existing workflow processes without the need to transcode media.

Morpheus ICE

The Integrated Content Engine

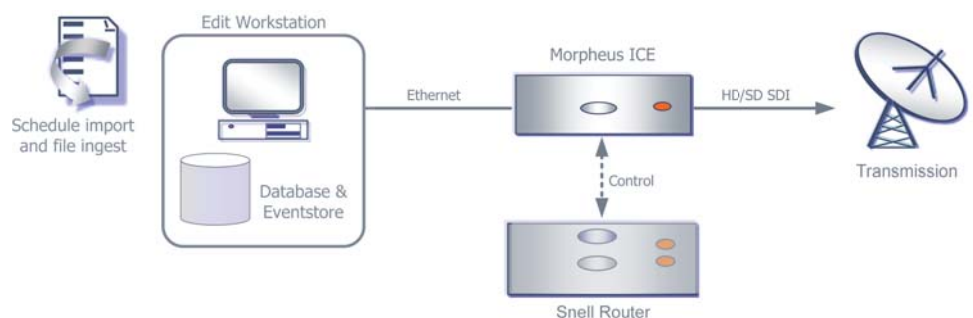


Features

- Self-contained video & audio clip player
- Support for existing video & audio file formats
- Graphics engine
- Built-in master control mixer with external router control
- Built-in media storage
- Schedule import & editing
- Full Morpheus Automation software with Media Ball technology
- Fully compatible with existing Morpheus installations

Applications

- Standalone channel playout
- Expansion to a larger multi-channel automation system
- Backup to an existing channel
- Low-cost preview channel
- Cost effective regional opt-out management



Single Channel Morpheus ICE System

ICE: The Basics

ICE is, at heart, a Morpheus Automation System. Morpheus is Snell's proven automation solution which combines best-of-breed functionality, unrivalled resilience and true scalability. It is used by some of the world's most demanding broadcasters, and offers an unmatched feature set, including:

- Powerful database search tools with browse and preview
- Sophisticated schedule import and management tools
- Snell's unique Media Ball technology allowing the aggregation of secondary content items into one easy-to-manage entity
- Simple, intuitive and powerful user interface to make complex operations easy to perform

ICE is effectively Morpheus in a single self-contained 3U rack-mount box, with its own storage and mixer built in. It is suitable for delivery of HD and SD video, audio and graphics in linear channel form or as non-linear on-demand content.

ICE uses industry-standard hardware and software platforms, and can operate in a fully standalone manner, connected to a separate operator workstation which additionally houses database, event store and file import applications. ICE can also slot into an existing Morpheus installation as if it were an additional device to be controlled.

Storage

ICE has internal RAID storage of 1TB, which equates to approximately 100 hours of DV25. This is devoted to caching media for playout. It can also be configured with external Network Attached Storage, using the full range of media management features available within the existing Morpheus Suite of products. ICE supports a wide range of SD and HD video file formats including DV25, DV50, IMX, and Long GOP MPEG, as well as MXF and MOV wrapped content.

Mixer

Snell has years of experience in master control, and a fully featured mixer is integrated within Morpheus ICE. This includes options for 2 or 4 external video inputs which allow the system to perform fades, mixes and wipes. ICE can also control an external Snell router for further source selection, and manages audio voiceovers using 16 discrete AES/EBU audio inputs.

Graphics

ICE can import and store graphical material such as logos and bugs and layer them onto the output stream. If more than simple channel branding is required there is the option to integrate with external third-party graphics devices to allow the scheduling and playout of multi-layer, multi-element templates.

Scheduling

Through its edit workstation, ICE can load, edit and append schedules, either on- or off-line, with content availability checks performed automatically. Database search tools allow users to quickly identify content. With a drag and drop approach to schedule editing, events can be changed within seconds of going to air. Unpredictable live events such as sports are fully catered for, with tools to enhance the ease with which commercial breaks with varying content and of different durations can be instantly inserted as the context demands.

Media Ball™

Morpheus ICE incorporates all of Snell's renowned Media Ball approach to the management of secondary events such as subtitles, logos, graphics and voiceovers. Media Ball offers a unique degree of flexibility in the way that multiple layered secondary events can be aggregated and managed as a single item, which can be manually added to the on-air schedule or scheduled automatically from a third party system. This equips ICE with capabilities which would normally only be available in far larger and more complex systems.

Media Management

Since ICE is an integral part of the Morpheus family, standard Morpheus Media Management solutions can be added as requirements arise. For example, Morpheus Video Network Manager can be used to manage the transfer of content from one storage location to another, or to replicate media for redundancy purposes. The Morpheus Archive Manager can be integrated to provide an interface to hierarchical storage management systems.

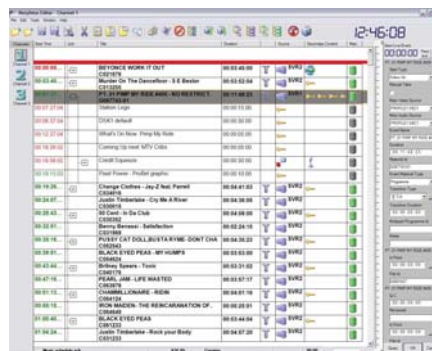
Configuration Options

The ICE's flexible design means that it can be used in a variety of contexts:

- It is a **standalone integrated playout and automation device**, with mixer functions, video clip playout, logo insertion and subtitle playout provided without the aid of dedicated hardware controller cards.
- For existing Morpheus Automation systems, ICE offers the ability to **add additional channels** simply and easily without the need for configuring the many discrete devices normally required. Morpheus ICE is integrated right into the heart of the Morpheus automation core.
- ICE can be used as a **flexible channel device** to provide **preview capabilities** for one or multiple channels. This provides an economically effective solution to the problem of configuring preview channels which can cost almost as much to deploy as the main channels themselves.
- The same applies to **regional opt channels**. Since it is linked to the core of the Morpheus Automation system, ICE can be used to play out different regional channels without compromising the operational flexibility that is required for multi-region transmission.

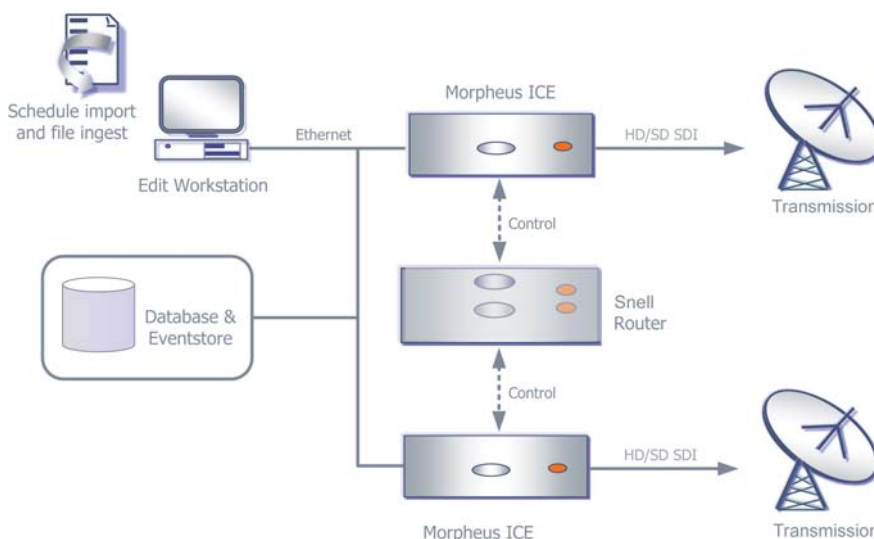
Expandability

ICE is highly scalable. From the basic standalone, self-contained and single-channel system, ICE can be expanded by adding additional units for new channels, and additional supported devices using standard Morpheus hardware controller cards. Since ICE is based on the Morpheus full feature automation core software, it has a seamless upgrade path and can be integrated into much larger multi-channel automation systems as needs arise.



Redundancy

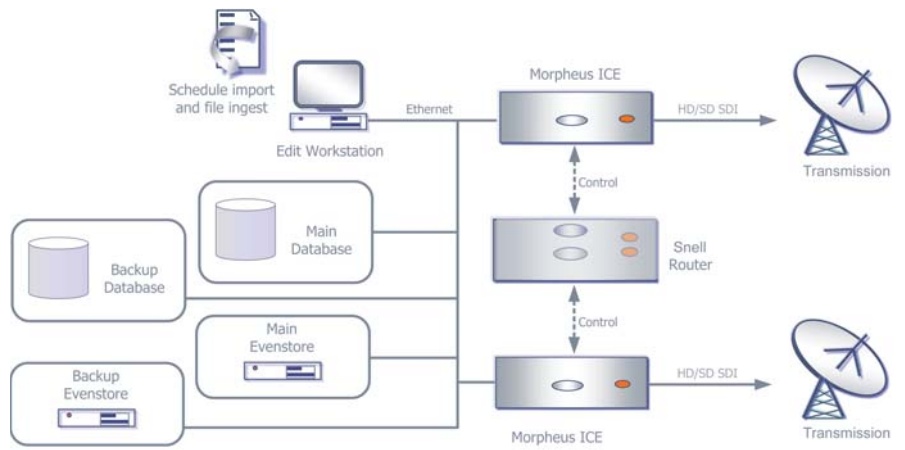
In a single-channel environment, two ICE units can be configured to provide a fully redundant configuration involving a main plus fully-mirrored guard channel. In a larger multi-channel Morpheus configuration, an ICE unit can be deployed as a cost-effective backup for a complete playout channel, providing the content is compatible.



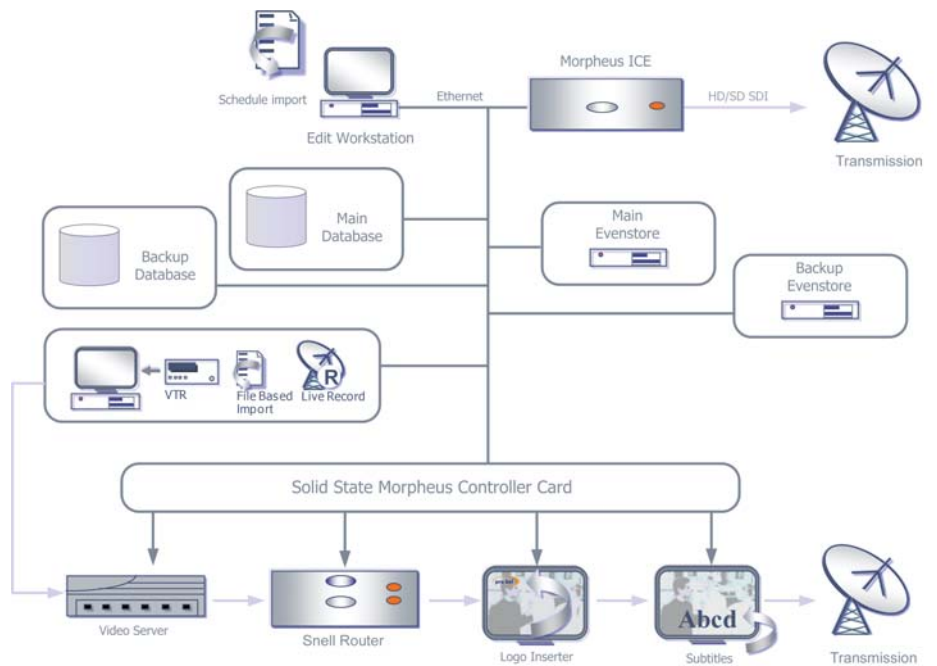
Dual Channel Morpheus ICE

Ordering Information

Please contact Snell sales or your local Snell agent for order codes.



Dual Channel Morpheus ICE with Redundancy



Morpheus ICE with Existing Morpheus System

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