Panasonic
CONNECT

IoT Cloud Platform
MB

Smart operation required in this era.
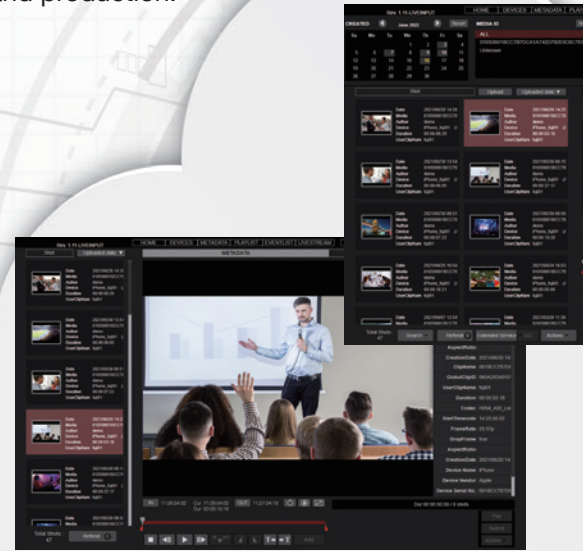Serving as a bridge to connect all video businesses.

MB

The cloud solution that integrates live streaming, video recording, video production and equipment and content management into one realizes the teleworking of video businesses.

The IoT cloud platform MB is a system that expanded applications to businesses, education and all industries that handle videos based on Panasonic's cloud solutions, which boast a proven track record.
Thanks to MB, images from camcorders, PTZ cameras and smartphones (streaming or files) can be integratedly managed on the cloud and can seamlessly connect to production work such as editing and streaming work.
Furthermore, it also enables condition monitoring and control of shooting equipment*.
MB can flexibly adapt to the user's environment and provides excellent immediacy and cost. It will bring innovation to workflows that connect video sharing, management, streaming and production.

*Possible functions differ depending on the filming terminal.

Remote Control

Integrated management and control of filming equipment via the cloud

Manage multiple cameras on the cloud and collectively stream onto YouTube and Facebook. In other words, it is possible to confirm the status of the filming equipment (equipment status, location information, etc.), record videos onto the cloud, designate the steaming destinations and start/stop streaming and record the streaming videos through the cloud with remote operation.

Smart Operation

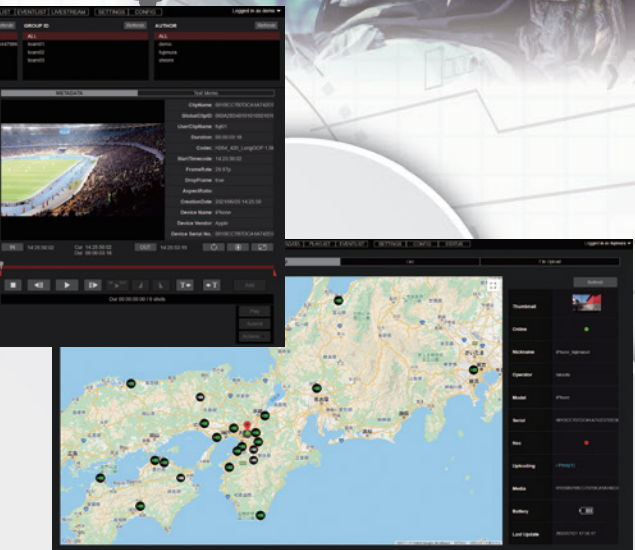## Use various cameras/smartphones[1] without media

By automatically collecting images from a wide range of cameras such as Panasonic's camcorders, PTZ cameras, network compatible cameras from other manufacturers[1] and smartphones (iPhone), media-less operation is possible without depending on the format.

On Time

Quick and high-quality video production with live recording, near live transfer

Other than live streaming/recording, it is possible to automatically upload recorded files from a compatible camcorder[1] or smartphone. Confirm and use recorded videos without stopping shooting and conduct video production close to live broadcasting with high image quality.

High Quality

High image quality that supports broadcasting

Compatible with low bit rate formats suitable for cloud operations, high-image quality P2 format (MXF) and 4K applied for broadcasting and business uses and support for broadcasting and video production applications. Both formats can be retained when transferring files[2], and it is possible to use them according to the application such as the low bitrate format for cloud operations and high quality videos for video production.

Online

Flexible system construction according to the user environment

You can start operation if you have a general connection and standard browser. In addition to AWS (Amazon Web Services), the cloud server can be constructed with a private network environment (on-premise support), and flexible operation is possible depending on the user environment.
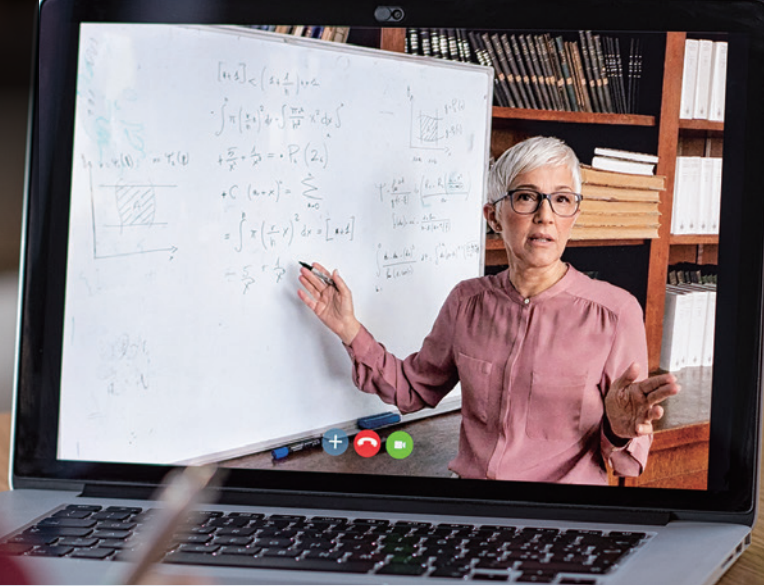
Reliable

Five-year track record of stable operation

The cloud system that is currently operated for the broadcasting market has a five-year track record of stable operation in global broadcasting stations, and MB is constructed based on this broadcasting system. We provide high reliability and stability that support daily operations in all industries that handle videos.
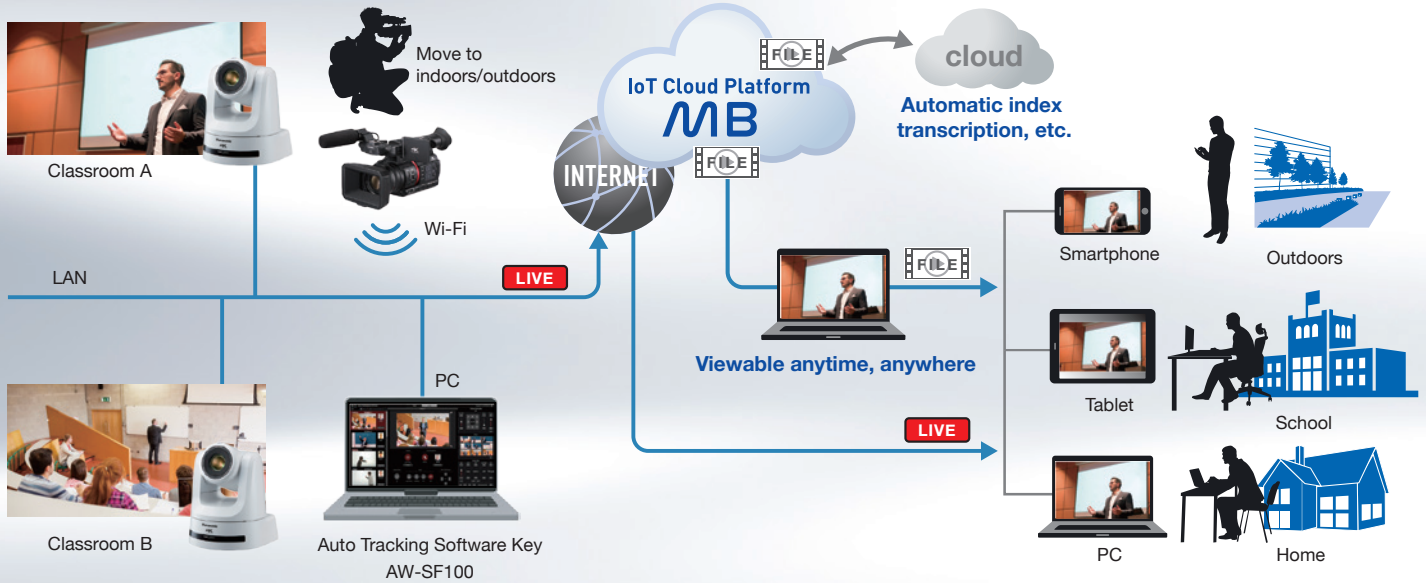
*1: Refer to our company website (https://pro-av.panasonic.net/en/products/media-bridge/) for the latest compatible cameras. *2: Possible functions differ depending on the filming terminal.

Education

Automatic file conversion of live videos, automatic file transfer and managing and sharing files

Classroom A

Move to indoors/outdoors

Wi-Fi

LAN

LIVE

IoT Cloud Platform **MB**

INTERNET

FILE

FILE

cloud

Automatic index transcription, etc.

Viewable anytime, anywhere

FILE

LIVE

Classroom B

PC

Auto Tracking Software Key AW-SF100

Smartphone

Outdoors

Tablet

School

PC

Home

*The live streaming destination from the camera will either be via MB or the Internet.

Easily record and stream lectures and manage content collectively.
We provide an environment where you can attend lectures at any place or time.

Providing realistic high-quality online lessons

💬 Customer issues
• I want to introduce online lessons using online streaming, but I don't have the installation and operation knowhow.
• Teachers want to have remote lessons without being restricted by time and location.

🔧 Solution
By using MB, it is easy to manage and control video equipment such as PTZ cameras installed in each classroom online from a remote location such as your home or remote office. It can also be easily operated online using a camcorder or smartphone[*1] for extracurricular studies.

Class recording that is ideal for self-studying and not constrained by time and location

💬 Customer issues
• I want to enable students who can't come to the classroom to participate in the lessons.
• I want to be able to view the necessary lessons from anywhere, anytime at my convenience.

🔧 Solution
By using MB, high-quality lesson videos can be managed on the cloud, and students can view the lessons free from time and location constraints. The lessons can be viewed with a standard browser, so the lesson and video content can be viewed with various devices such as a tablet, making it useful for reviews and preparations.

Shooting equipment and content can be centrally managed to reduce operational work
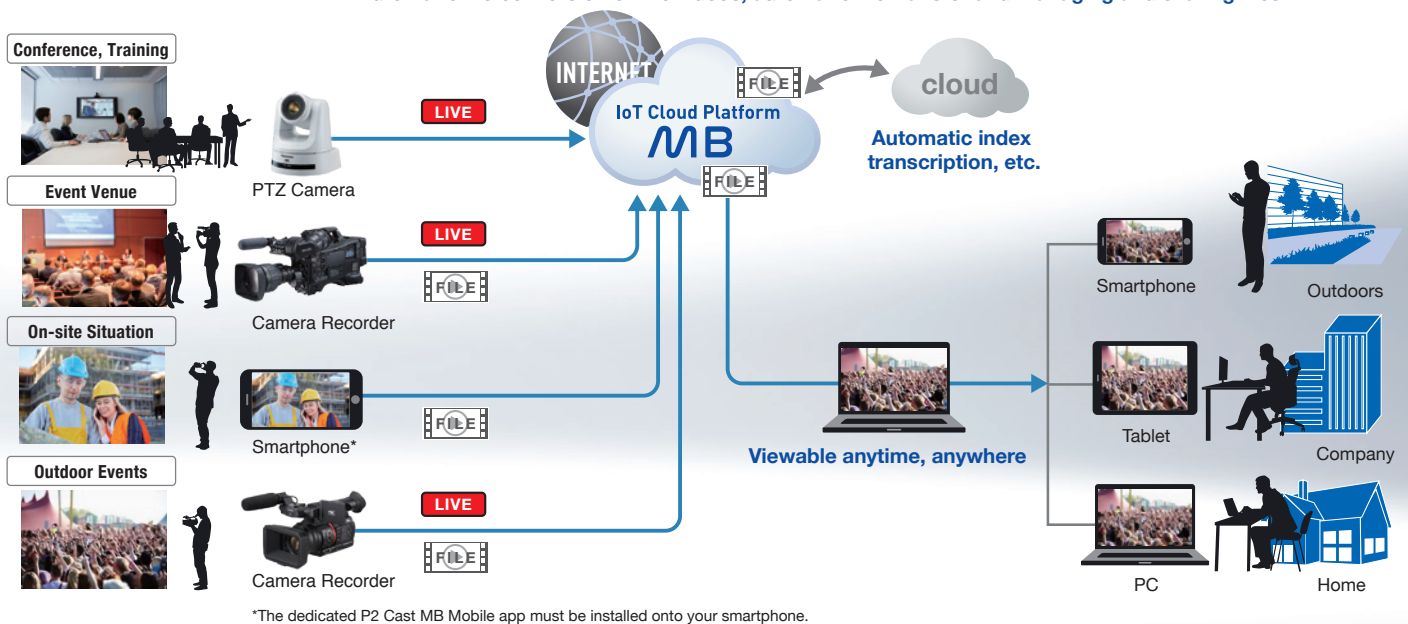
💬 Customer issues
• I want to reduce the labor required for setting configurations, condition monitoring and maintenance management of shooting equipment installed in each classroom.
• In addition to streaming, I want to summarize and manage various video content including lessons.

🔧 Solution
By using MB, centralized management of shooting equipment operation, condition monitoring, maintenance management[*2] and video content can be conducted remotely to significantly reduce operational efforts. Privacy information can also be protected by operating using an on-campus server.

Automatic file conversion of live videos, automatic file transfer and managing and sharing files

Conference, Training

Event Venue

On-site Situation

Outdoor Events

PTZ Camera

LIVE

Camera Recorder

LIVE

FILE

Smartphone*

FILE

Camera Recorder

LIVE

FILE

INTERNET

FILE

IoT Cloud Platform

MB

FILE

cloud

Automatic index transcription, etc.

Smartphone

Outdoors

Tablet

Company

Viewable anytime, anywhere

PC

Home

*The dedicated P2 Cast MB Mobile app must be installed onto your smartphone.

Supports recording, file management, and streaming of videos of conferences and seminars. Easily share real-time information of on-site videos.

Grasp conference videos and the on-site situation in real-time

💬 Customer issues

• I want to confirm the on-site videos of conferences, seminars, etc. without being constrained by time or location.
• I want to share the on-site videos with multiple people.

🔧 Solution

By using MB, video content accumulated on the cloud in real-time can be shared with your team and viewed anytime with a smartphone or tablet. It also supports highly efficient operation by linking with apps such as the transcription system, and significantly reduces the labor required for taking minutes and on-site support. Total cost reduction can also be achieved by reducing the equipment and operation brought about by cloud operation.

Creating video content is extremely easy

💬 Customer issues

• I want to easily create content files of videos of frequently held conferences, seminars, in-house training, etc.
• I want to shoot, edit, distribute media (such as DVDs) and manage (save and search) without spending time and money.

🔧 Solution

MB is equipped with a calendar search function[3], so you can easily search for videos of past conferences and seminars. They can also be accessed with a web browser, so you can manage videos by site and introduce a flexible system configuration according to the user environment to provide enhanced support. Also, reliability is improved by using the cloud as a backup. As a result, the range of work that can be done with a one-man operation is greatly expanded.

Providing a video collection and distribution system according to the application

💬 Customer issues

• I want to provide stable video streaming even in an emergency or disaster when the network environment is severe.
• I want to shoot with my smartphone.
• I want to know where the camera operator is.
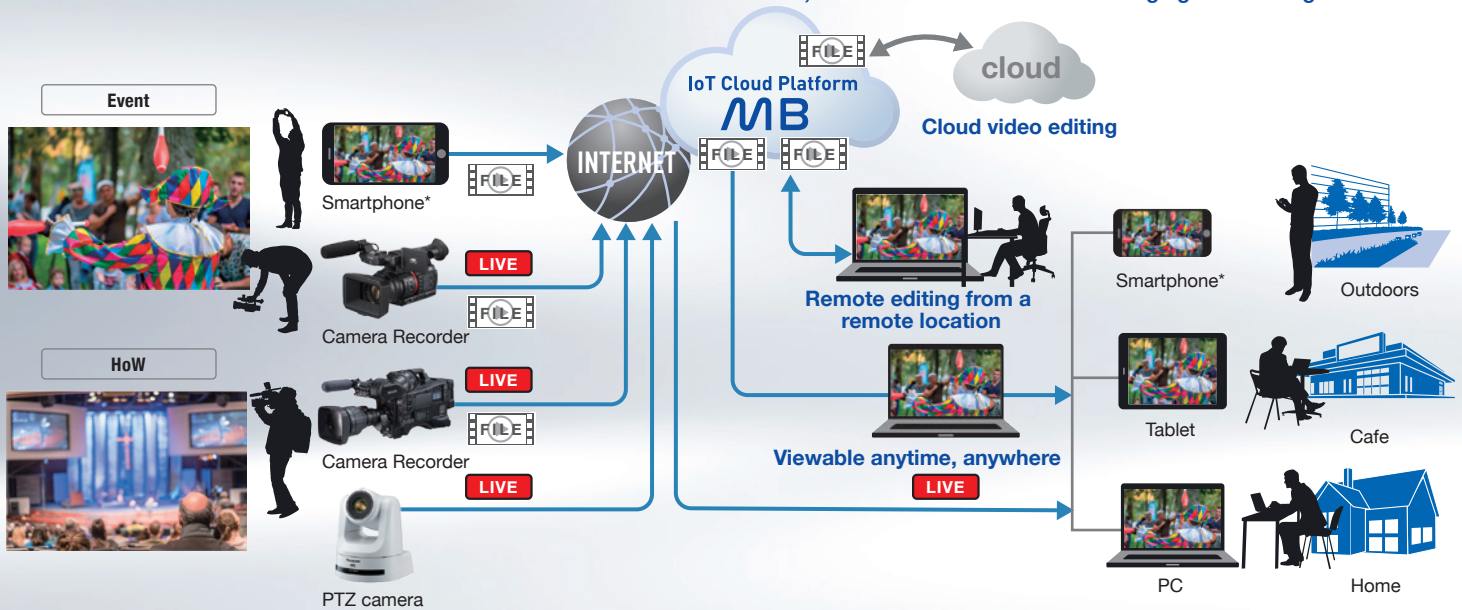
🔧 Solution

With MB, stable video transfer is possible using the camera's near-live function even in a severe network environment for live performances. Also, by installing the dedicated app onto your smartphone, you can easily shoot videos and transfer them to MB. Furthermore, the camera location can be displayed on a map using the GPS information to grasp the location of the camera operator.

*1: Visit the Panasonic website for the latest compatible cameras. Please refer to (https://pro-av.panasonic.net/en/products/media-bridge/)   *2: Compatibility may be different depending on compatible shooting equipment.   *3: The content retention period is up to 365 days. Content can be searched within the retention period.

Event

Automatic file conversion of live videos, automatic file transfer and managing and sharing files

*The dedicated P2 Cast Media Bridge Mobile app must be installed onto your smartphone.

The live streaming destination from the camera will either be via MB or the Internet.

Providing full support of shooting to streaming with one-stop operation. Realizing labor-saving of staff members and highly efficient operation.

Achieve easy operation at a low cost

Customer issues
• I want to make video shooting easy, as well as streaming and content management.
• I want to operate with a small number of staff and low cost.

Solution
By using MB, videos can be automatically uploaded while shooting so that the camera operator can focus on shooting without worrying about uploading tasks. It is also directly linked to labor-saving solutions such as transcriptions, scene searches and digest editing.
Also, reliability is improved by using the cloud as a backup, scenes possible with one-man operation can be greatly expanded and you can speedily operate high-quality video production.

Share materials with multiple staff members, edit videos and remotely manage the camera

Customer issues
• I want to operate shooting and edit from a remote location without having to go to the site and reduce equipment transport and transportation costs.
• I want to easily operate multiple events with a limited budget and number of personnel.

Solution
With MB, proxy (low bit-rate) clips can be automatically uploaded onto the cloud sequentially while shooting. Remote editing can be done from a remote location to significantly save time and effort and contribute to work style reform. They can be instantly accessed by multiple staff members from a laptop computer or tablet. Access rights to previews, downloads, deletion and data registration functions can be registered in detail for each staff member or group to enable safe management.

Providing a video collection and distribution system depending on the application

Customer issues
• I want to easily stream many camera videos from multiple locatio ns.
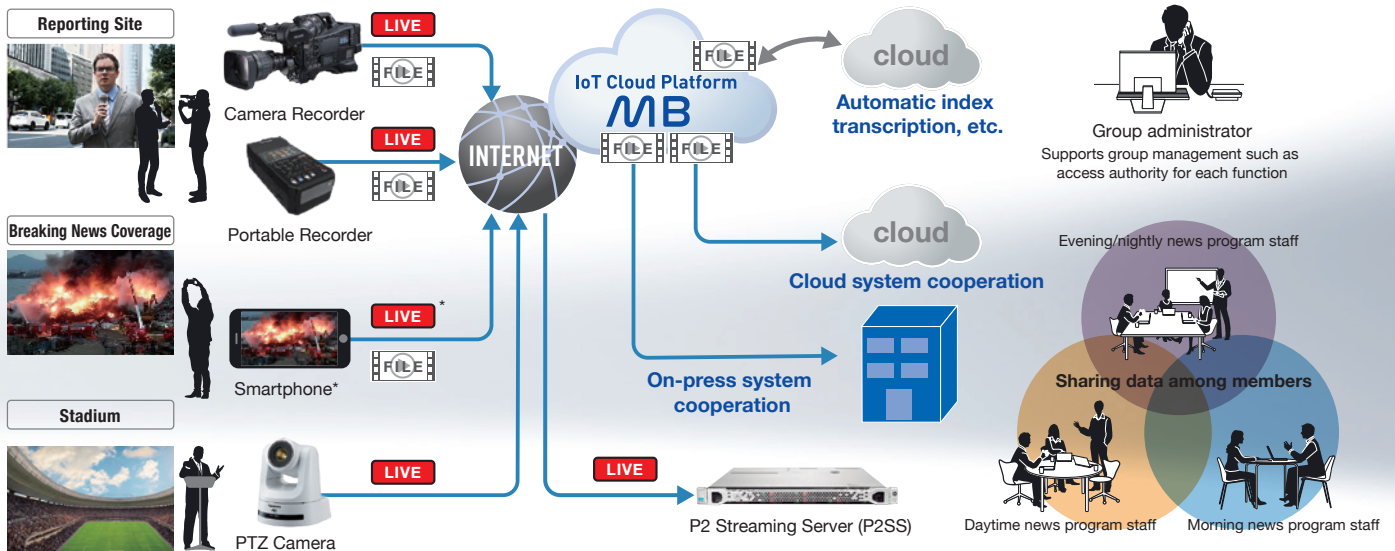• I want to stream high-quality and stable videos.

Solution
Thanks to MB's device management function, connected cameras can be centrally managed, and streaming control (designating the streaming destination/start/stop) can be easily conducted from a web browser. With the camera's near-live function, stable image transfers can be conducted even under severe network environments.

Automatic file conversion of live videos, automatic file transfer and managing and sharing files

Reporting Site

Camera Recorder — LIVE / FILE

Portable Recorder — LIVE / FILE

Breaking News Coverage

Smartphone* — LIVE* / FILE

Stadium

PTZ Camera — LIVE

INTERNET

IoT Cloud Platform **MB** — FILE / FILE / FILE

cloud — **Automatic index transcription, etc.**

cloud — **Cloud system cooperation**

On-press system cooperation

LIVE → P2 Streaming Server (P2SS)

Group administrator — Supports group management such as access authority for each function

Evening/nightly news program staff

Sharing data among members

Daytime news program staff   Morning news program staff

*The dedicated P2 Cast Media Bridge Mobile app must be installed onto your smartphone. Live streams from a smartphone must be streamed via a P2 Streaming Server.

The live streaming destination from the camera will either be via MB or the Internet. For more on P2SS, please see Page 10 "P2 Streaming Server (P2SS) Live Transmission".

Direct connection between the reporting site and the newsroom. Achieve cost reduction and operational efficiency with remote work for editing and management.

Operation is possible with a limited budget and staff

💬 Customer issues

• I want to immediately head to the site and operate with a small number of staff during an emergency situation such as a disaster.
• I want the news staff members to carry out a one-man operation from coverage to editing.

🖳 Solution

With MB, proxy (low bit-rate) clips can be automatically uploaded onto the cloud sequentially while shooting. By enabling multiple staff members who are connected to the newsroom and the cloud to instantly access these on-site videos, it is possible to report news with high immediacy that is similar to live broadcasting. It also supports shooting with a smartphone to enable flexible news production. We provide the press staff with a work style that is not bound by time and location constraints.

Build a video collection and distribution system according to the on-site situation

💬 Customer issues

• I want to make it easier to set up the camera and manage the recorded videos for each shooting location and relay destination.
• I want to summarize and manage video content in various media and formats.

🖳 Solution

By using MB, you can confirm videos with a web browser and easily share contents with the main broadcast station, branch broadcast stations and site. By registering standard metadata such as location, date and time as well as station-specific metadata[1], you can easily find the content you need. Also, you can centrally manage all contents regardless of the format with the automatic content management, so they are easy to reuse.

Easy to operate without the need of an outside broadcasting van

💬 Customer issues

• I want to relay broadcasts inexpensively with a small number of people and without using an outside broadcasting van.
• I want to relay stable on-site videos without being constrained by location.

🖳 Solution

Videos are directly streamed/file transferred from the camera equipment using an Internet connection, making it possible to relay broadcasts without using an outside broadcasting van. All equipment is remotely connected and managed together with the recorded contents for each equipment name and staff name and can be centrally managed from the cloud. It is also possible to display a map of the location of the shooting equipment so that you can respond quickly to emergency interviews.

Streaming and uploading from a variety of cameras.
Manage and share content from the cloud and remotely manage the camera.

Shooting / Recording Material

Wired LAN

Wireless LAN

Wireless Module

4G/LTE

Modem   Router

5G

Router

Smartphone

Bonding

Bonding Unit

Panasonic Camera Recorder*1
(P2 series / CX series)

Panasonic PTZ Camera*1

Network Compatible
Camera Recorder, etc. *1

01 Camera monitoring and streaming control

02 Collectively monitor and manage multiple cameras

03 Automatic file transfer function

IoT Cloud Platform MB

05 Complete editing on the cloud

06 Supports function expansion with AI linkage

Automatic Index transcription, etc.

04 Automatic transfer from a smartphone camera

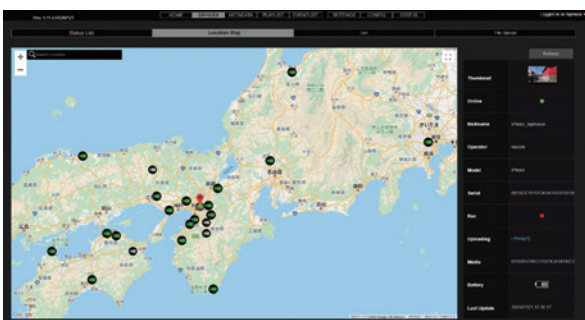P2 Cast Media Bridge
Panasonic

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01 Camera monitoring and streaming control

With Panasonic's camera (camcorders and PTZ cameras)*1 and smartphone app, streaming is supported in various methods with the high-quality and low bit-rate H.264/HEVC codec and QoS (Quality of Service) mode that continues stable real-time transmission even when line conditions change. Therefore, you can flexibly select the connection method according to the network environment, such as wireless LAN, wired LAN, 4G/LTE and 5G. These cameras can be centrally monitored via MB and streaming can be controlled remotely.
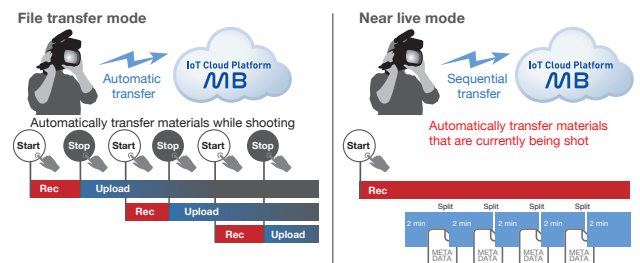
02 Collectively monitor and manage multiple cameras

The compatible cameras connected to the cloud*1 are individually authenticated, and you can collectively monitor each the status of each of them. Camera locations can be displayed on a map.*2 It is possible to manage the remote registration of metadata (information such as date and time, camera operator, shooting location, etc.), remote changes of the camera settings (menu settings) and remote update of the firmware.

03 Automatic file transfer function

In addition to streaming, Panasonic's P2/CX camcorder*1 and smartphone app supports file transfers. Stable, high-quality transmission that is not affected by communication conditions is guaranteed. Resending is also possible even in the unlikely event of a communication failure. In addition to the file transfer mode that lets you sequentially transfer materials that you are currently shooting like a live stream, you can view the videos that you are recording with a web browser.

File transfer mode

Automatic transfer

IoT Cloud Platform MB

Automatically transfer materials while shooting

Start Stop Start Stop Start Stop

Rec Upload
Rec Upload
Rec Upload

Near live mode

Sequential transfer

IoT Cloud Platform MB

Automatically transfer materials that are currently being shot

Start

Rec

Split Split Split Split

2 min 2 min 2 min 2 min 2 min

META DATA META DATA META DATA META DATA

04 Automatic transfer from a smartphone camera

We offer the smartphone app P2 Cast Media Bridge Mobile (iOS)* that is equipped with the same functions*3 as a Panasonic camera, including the metadata recording and near-live functions. The range of shooting is greatly expanded by using a smartphone.

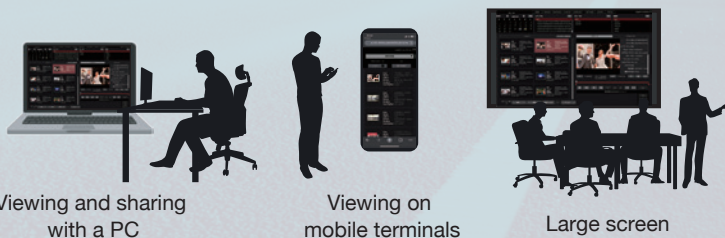*For more on the operating environment of P2 Cast Media Bridge Mobile, please visit the App Store (https://apps.apple.com/app/p2-cast-media-bridge-mobile/id1516744602).

P2 Cast Media Bridge Mobile   Download on the App Store

MB

Streaming and Editing by Remote Work

- **07** On-premise server support
- **08** Automatic storage/management of video materials
- **09** High-quality video
- **10** Secure network and security
- **11** Access with a standard web browser

Compatible with Various Viewing Environments

| Viewing and sharing with a PC | Viewing on mobile terminals | Large screen |

On-Premises (Remote Office)

12 Editing/production system linkage

P2 Cast Bridge Premiere Pro	P2 Cast Bridge Media Composer	P2 Cast Bridge iNEWS
Highlight editing Adobe Premiere Pro	Highlight editing Avid Media Composer	Metadata workflow Avid iNEWS

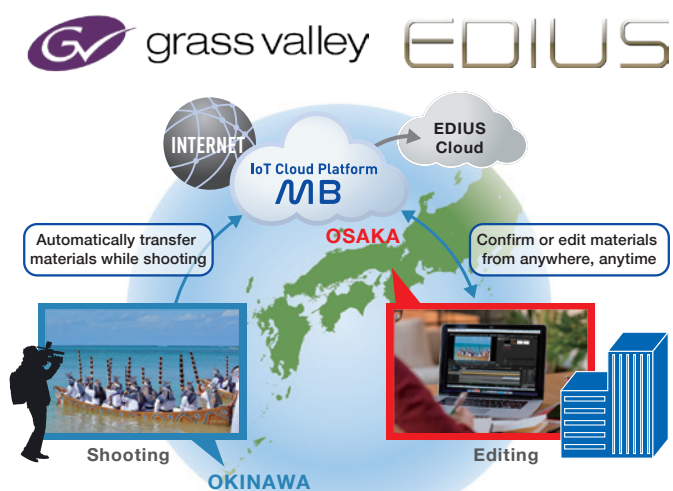| P2 Cast Bridge Interplay	Media Bridge Web API	P2 Cast Bridge CORE
Automatic ingestion Avid Interplay	Link development support Media Bridge SDK	Link support P2Cast Bridge Core

QoS Live Streaming

13 P2 Streaming Server (P2SS)*4 live transmission

AJ-SRK001G (Software key)
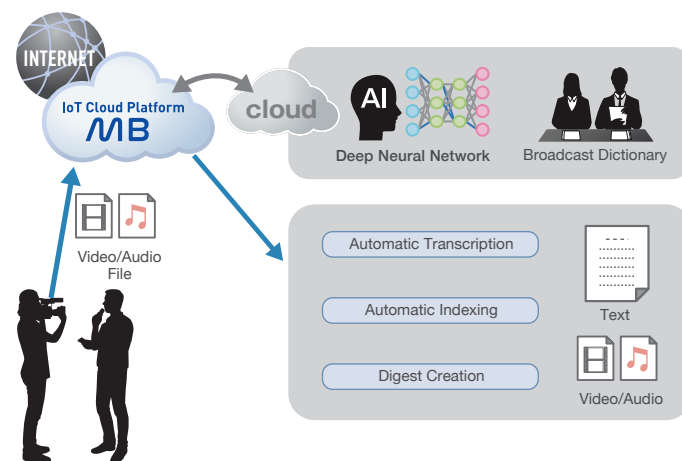Streaming Receiver Server KIT

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05 Complete editing on the cloud

By seamlessly linking with EDIUS Cloud (Grass Valley)*4 on AWS (Amazon Web Services), video materials transferred to MB can be instantly edited on the EDIUS Cloud without having to download them. With the live recording and near-live mode, you can start editing the materials that you are currently shooting. If you have a PC that is connected to the Internet, you can edit from anywhere, anytime.

06 Supports function expansion with AI linkage

With cloud linkages, function expansion and function linkage using various AI, including automatic transcription, automatic indexing and digest creation, are scheduled with MB.

---

*1: For more on the compatible cameras/camera compatible functions, please visit the Panasonic website (https://pro-av.panasonic.net/en/products/media-bridge/).
*2: For camcorders with a GPS function (AJ-PX5100GJ/AJ-PX270). *3: Not compatible with dual recording. *4: A separate contract is required.

Access with a standard web browser, status monitoring and control of shooting equipment and record, store, view and share videos.

Menu bar
The tab lets you switch the screen's functions, such as the home screen and user list screen.

Shot list
A list of shots automatically uploaded from a P2/CX camcorder[1] or smartphone[1] and stream recorded shots from a PTZ camera are displayed here. Select by clicking or tapping to preview or edit highlights[2].

Preview and highlight editing
Playback selected shots, display metadata/text memos, highlight edit materials from compatible devices[1] and add prepared subshots to the item box.

MB Web Browser HOME

07 On-premise server support

In addition to AWS environments, is also possible to run MB on an on-premise server. Flexible construction according to the user's needs is also possible, such as constructing a secure environment on a network system managed in-house.

08 Automatic storage/management of video materials

Video materials automatically transferred from a camcorder can be managed with MB and shared to a group or streamed (viewed).
Also, thanks to the streaming recording function, videos from devices with a streaming function can be collectively managed in the same way. In addition to the storage time and shooting date and time, it is easy to search for information such as the shooting location and camera operator that can be registered at the same time. Due to this, you can smoothly link to operation by multiple staff members and streaming, editing and archiving work.
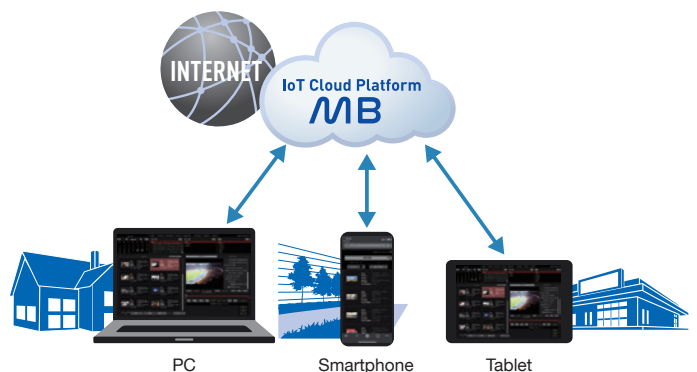
09 High-quality video

Compatible with high-quality files such as high-quality HD (P2 MXF)/4K MOV[2] and supports professional video productions. With PX Series camcorders, it is possible to specify the IN points/OUT points and transfer partial cutouts to significantly reduce the transfer time. The CX Series camcorders[1] supports high-resolution direct transfers including 4K using 5G communication, and thanks to MB you can reduce the time from shooting to production.
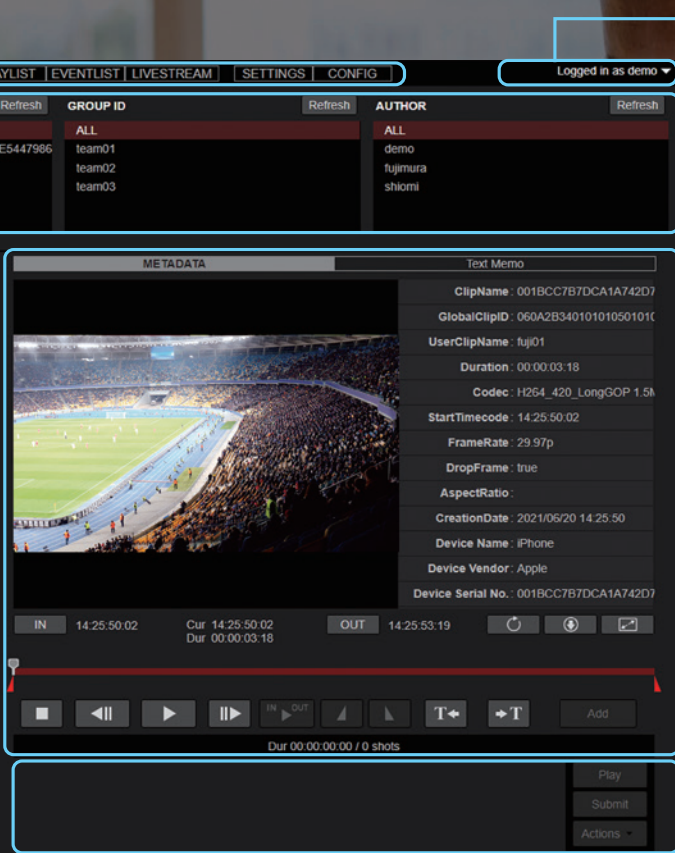
10 Secure network and security

Highly secure transfer methods (HTTPS/SFTP/RTMPS) are supported with a general connection. It is possible to grant access authority in detail to various functions such as preview/download, delete and register for each accessible staff member. Also, it is possible to construct with your in-house cloud environment, so an even higher level of security can be ensured.

11 Access with a standard web browser

MB uses standard web browsers, so if you have a terminal that is connected to the Internet, it is accessible without any time or location restrictions. With a smartphone, you can view it from a specially customized screen. Simultaneous use of video materials by multiple staff members is also supported.

INTERNET

IoT Cloud Platform
MB

PC   Smartphone   Tablet

MB

Login/logout button
This screen is displayed when you login with your registered user account.

Search pane
Refines your search shot images. The shots narrowed down by "creation date/media/group/ registered user" will be displayed on the shot list shown on the left.

Preview and highlight editing
Playback selected shots, display metadata/text memos, highlight edit materials from compatible devices[1] and add prepared subshots to the item box.
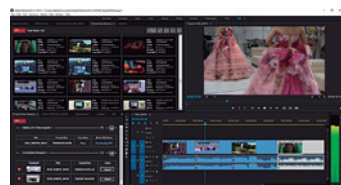
Create playlists
Save and edit playlists combining your added subshots. Download high-resolution data from the P2 camcorder[1].

Screen interface elements

PLAYLIST | EVENTLIST | LIVESTREAM | SETTINGS | CONFIG   Logged in as demo ▼

Refresh   GROUP ID   Refresh   AUTHOR   Refresh
E5447986   ALL   ALL
           team01   demo
           team02   fujimura
           team03   shiomi

METADATA | Text Memo
ClipName : 001BCC7B7DCA1A742D7
GlobalClipID : 060A2B34010101050101(
UserClipName : fuji01
Duration : 00:00:03:18
Codec : H264_420_LongGOP 1.5M
StartTimecode : 14:25:50:02
FrameRate : 29.97p
DropFrame : true
AspectRatio :
CreationDate : 2021/06/20 14:25:50
Device Name : iPhone
Device Vendor : Apple
Device Serial No. : 001BCC7B7DCA1A742D7

IN 14:25:50:02   Cur 14:25:50:02   OUT 14:25:53:19
                  Dur 00:00:03:18
Dur 00:00:00:00 / 0 shots

Play
Submit
Actions ▼

---

12 Editing/production system linkage

Depending on each support software, you can seamlessly link to a non-linear editor, news automation system or media asset management system[3]. Tasks from shooting to production are automatically updated without having to change your current workflow. Also, to expand support to more systems, we offer the MB-linked API (SDK)[3], enabling you to smoothly develop linked software.
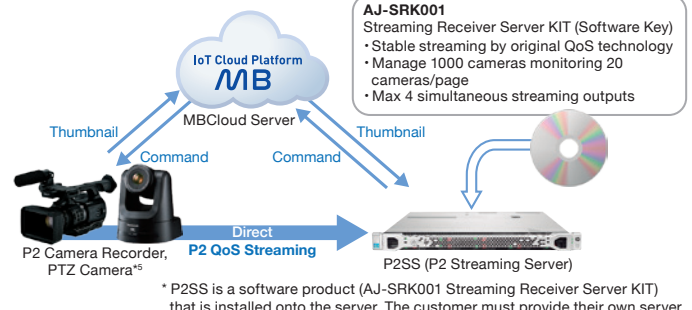
Developed link software

Adobe   AVID

P2 Cast | Bridge **Premiere Pro**
P2 Cast | Bridge **Media Composer**
P2 Cast | Bridge **iNEWS**
P2 Cast | Bridge **Interplay**

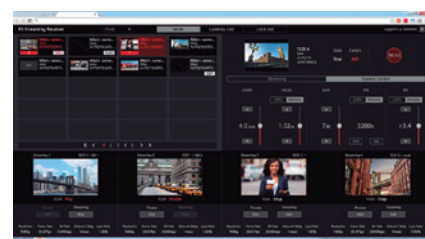Example of Adobe Premiere Pro (+P2 Cast Bridge)

Example of Avid Media Composer (+P2 Cast Bridge)

13 P2 streaming server (P2SS)[4] live transmission

By using the P2 streaming server software (Windows only), you can convert streaming videos from compatible devices[4] to an SDI signal or RTMP streaming. The P2SS can be used alone, but by using it together with MB, it is possible to bring streams into the broadcast station via the Internet.

AJ-SRK001
Streaming Receiver Server KIT (Software Key)
・Stable streaming by original QoS technology
・Manage 1000 cameras monitoring 20 cameras/page
・Max 4 simultaneous streaming outputs

IoT Cloud Platform MB
MBCloud Server
Thumbnail   Thumbnail
Command   Command

P2 Camera Recorder, PTZ Camera[5]

Direct
P2 QoS Streaming

P2SS (P2 Streaming Server)

* P2SS is a software product (AJ-SRK001 Streaming Receiver Server KIT) that is installed onto the server. The customer must provide their own server.

Example P2 Streaming Server

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*1: For more on the compatible cameras/camera compatible functions, please visit the Panasonic website (https://pro-av.panasonic.net/en/products/media-bridge/). *2: There may be a difference in compatibility depending on the compatible shooting device. *3: For more on the linked software and API, please contact a sales representative. *4: For more on P2SS, please refer to the Panasonic website (https://eww.pass.panasonic.co.jp/pro-av/support/content/download/EN/ep2main/stream_server_e.htm).

For "Notes regarding the handling of P2 files using a PC," "Notes regarding network connections," "Precautions for using SDHC/SDXC memory cards with a memory card adapter," and "Note regarding 24 bit audio," please refer to the Panasonic web site <https://pro-av.panasonic.net/en/support/notes/p2.html> "Notes when using P2 series".

Panasonic®

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ISO
14001
JACO
EC98J2010

UKAS
MANAGEMENT
SYSTEMS
0051

Factories of Panasonic Connect Co., Ltd. have received ISO14001:2015-the Environmental Management System certification. (Except for 3rd party's peripherals.)

For more information, please visit Panasonic web site
https://pro-av.panasonic.net/en/qr/

Broadcast and Professional AV Website

Contact Information

Facebook

Mobile App