

# DATA SHEET

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KVXHP-100, KVXHP-200, KVXHP-400

# KVX HP SERIES EXTENDERS

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# OVERVIEW

## KVX HP SERIES EXTENDERS DATA SHEET

### INTRODUCTION

The KVX HP Series Extenders are high-performance KVMA (keyboard, video, mouse, audio) extenders. Ultra-high-definition (UHD) 4K60 video, USB 2.0, and audio are transmitted on a single CATx or fiber cable. Developed for enterprise organizations and high-pressure control rooms, it combines the simplicity of true plug-and-play and high-performance 4K KVM extension .

In a point-to-point configuration, the single-head models enable you to locally use a DisplayPort monitor, USB keyboard/mouse/ other devices, speaker and microphone to operate a remote computer, server, or other IT device. The dual-head models enable you to use two DisplayPort monitors. The quad-head models support four DisplayPort monitors. Operation is plug-and-play.

Three versions are available:

- KVX HP Series 4K DisplayPort Single-Head KVM CATx/Fiber Extender (KVXHP-100)
- KVX HP Series 4K DisplayPort Dual-Head KVM CATx/Fiber Extender (KVXHP-200)
- KVX HP Series 4K DisplayPort Quad-Head KVM CATx/Fiber Extender (KVXHP-400)

### FEATURES

- Supports 4096 x 2160 high-resolution video at 60 Hz using 8 bits per color and 4:4:4 chroma sampling
- Includes a local passthrough port on the transmitter
- Transmits 4K60 video, USB 2.0 HID, and audio signals on a single CATx or fiber cable
- Supports High-Speed USB 2.0 (KVXHP-200)/USB 2.0 (HID) (KVXHP-100, KVXHP-400)
- Extends distances of 328 feet (100 meters) over CATx cable or 2.48 miles (4 km) over fiber cable
- Enables connection of full- and low-speed USB HID devices, including keyboards, mice, graphics tablets, and joysticks
- Passes true monitor characteristics to computer via EDID management
- Plug-and-play: no drivers or software are required
- Encapsulates up to eight channels of 24-bit, 192-kHz sampled PCM uncompressed digital audio integrated with the video signal or up to two channels of 24-bit, 96-kHz sampled PCM audio over USB
- Carries HD quality analog stereo audio (24-bit, sampled at 96 kHz) for line in/out, microphones, and headphones/speakers
- Supports RS-232 serial flow control
- 4-port model supports Multi-Stream Transport (MST) so you can daisychain four DisplayPort 1.2 monitors connected to one DisplayPort 1.2 port on the source computer

## COMPARISON CHART

FEATURES COMPARISON CHART			
	KVXHP-100	KVXHP-200	KVXHP-400
AUDIO I/O	YES	YES	YES
RS-232	YES	YES	YES
TX LOCAL OUT CONNECTORS	(1) DISPLAYPORT	NO	NO
TX INPUT CONNECTORS	(1) DISPLAYPORT	(2) DISPLAYPORT	(1) MST DISPLAYPORT
RX OUTPUT CONNECTORS	(1) DISPLAYPORT	(2) DISPLAYPORT	(4) DISPLAYPORT USING MST HUB
MULTI-HEAD	NO	DUAL-HEAD	QUAD-HEAD THROUGH DP MST
MEDIA	TWISTED-PAIR OR FIBER	TWISTED-PAIR OR FIBER	TWISTED-PAIR OR FIBER
MAXIMUM DISTANCE	328 FEET (100 M) (CATX) OR 2.48 MI. (4 KM) (FIBER)	328 FEET (100 M) (CATX) OR 2.48 MI. (4 KM) (FIBER)	328 FEET (100 M) (CATX) OR 2.48 MI. (4 KM) (FIBER)
MAXIMUM RESOLUTION	4096 X 2160	4096 X 2160	1920 X 1200
MST SUPPORTED	NO	NO	YES
USB MODE	EMULATED	(1) DEDICATED HIGH-SPEED; (3) EMULATED	EMULATED
USB SPEED	<24 MBPS	<24 MBPS OR 192 MBPS	<24 MBPS
USB TYPE	LS, FS*	LS, FS, HS*	LS, FS, HS*
1080P	YES	YES	YES
USB	YES	YES	YES
PS/2	NO	NO	NO
ISOCRONOUS	NO	YES	NO

\*LS = Low-speed; FS = Full-speed; HS = High-speed



# SPECIFICATIONS

## KVX HP SERIES SINGLE-HEAD EXTENDERS (KVXHP-100)

FRONT VIEW



KVXHP-100 Transmitter

BACK VIEW



KVXHP-100 Transmitter

FRONT VIEW



KVXHP-100 Receiver

BACK VIEW



KVXHP-100 Receiver

### WHAT'S INCLUDED WITH THE KVXHP-100 TX

- (1) TRANSMITTER
- (1) 12-VDC 1.5-A POWER SUPPLY UNIT
- (1) US POWER CORD
- (1) 3-M 3.5-MM AUDIO CABLE
- (1) 2-M USB A-B CABLE
- (1) 3-M DP-DP CABLE
- (1) INFO WALLET

### WHAT'S INCLUDED WITH THE KVXHP-100 RX

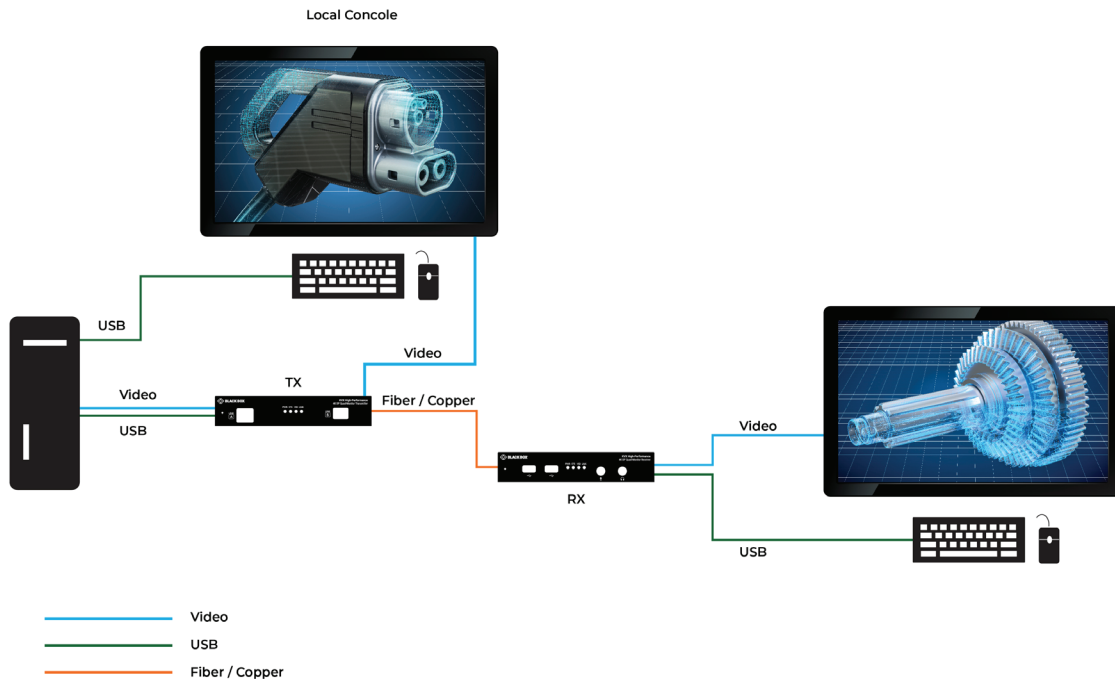
- (1) RECEIVER
- (1) 12-VDC 1.5-A POWER SUPPLY UNIT
- (1) US POWER CORD
- (1) INFO WALLET

### SPECIFICATIONS FOR KVX HP SERIES SINGLE-HEAD EXTENDER (KVXHP-100)

SPECIFICATION	TRANSMITTER	RECEIVER
<b>CONNECTORS</b>	Host connection: Video Input: (1) DisplayPort female Serial Control Port: (1) RJ-12 female Link Ports: (1) RJ-45 female, (1) SFP+ slot (only 1 is active) USB: (2) USB 2.0 Type B female Audio: (1) Line in, (1) Line out; Local Video Output: (1) DisplayPort female	Console connection: Video Output: (2) DisplayPort female (one extra) Serial Control Port: (1) RJ-12 female Link Port: (1) RJ-45 female, (1) SFP+ slot USB 2.0: (4) USB Type A female Audio: (1) Mic In, (1) Speaker Out
<b>DISTANCE</b>	CAT5e cable: Up to 164 ft. (50 m); CAT6 cable: Up to 328 ft. (100 m) MM Fiber cable: Up to 984 ft. (300 m); SM Fiber cable: Up to 2.48 mi. (4 km)	CAT5e cable: Up to 164 ft. (50 m); CAT6 cable: Up to 328 ft. (100 m) MM Fiber cable: Up to 984 ft. (300 m); SM Fiber cable: Up to 2.48 mi. (4 km)
<b>INDICATORS</b>	(4) Status LEDs (tri-color)	(4) Status LEDs (tri-color)
<b>MAXIMUM RESOLUTION</b>	4096 x 2160 at 60 Hz	4096 x 2160 at 60 Hz
<b>EXTENSION TECHNOLOGY</b>	5-Gbps CATx or 10-Gbps fiber with ultra-low latency adaptive video stream compression	5-Gbps CATx or 10-Gbps fiber with ultra-low latency adaptive video stream compression
<b>HOUSING MATERIAL</b>	Metal chassis	Metal chassis
<b>OPERATING SYSTEM</b>	OS independent	OS independent
<b>ENVIRONMENTAL</b>	Operating Temperature: 32 to 104° F (0 to 40° C); Storage Temperature: +14 to +122° F (-10 to +50° C); Operating Humidity: 0 to 80%, noncondensing	Operating Temperature: 32 to 104° F (0 to 40° C); Storage Temperature: +14 to +122° F (-10 to +50° C); Operating Humidity: 0 to 80%, noncondensing
<b>POWER</b>	External 12-VDC, 18-W power supply	External 12-VDC, 18-W power supply
<b>DIMENSIONS</b>	1.54" H x 7.32" W x 5.83" D (3.9 x 18.6 x 14.8 cm)	1.54" H x 7.32" W x 5.83" D (3.9 x 18.6 x 14.8 cm)
<b>WEIGHT</b>	2.84 lb. (1.29 kg)	2.73 lb. (1.24 kg)

# APPLICATION DIAGRAM: K VXHP-100

K VX HP SERIES SINGLE-HEAD EXTENDERS (K VXHP-100)



# SPECIFICATIONS

## KVX HP SERIES DUAL-HEAD EXTENDERS (KVXHP-200)

FRONT VIEW



KVXHP-200 Transmitter

BACK VIEW



KVXHP-200 Transmitter

FRONT VIEW



KVXHP-200 Receiver

BACK VIEW



KVXHP-200 Receiver

### WHAT'S INCLUDED WITH THE KVXHP-200 TX

- (1) TRANSMITTER
- (1) 12-VDC 1.5-A POWER SUPPLY UNIT
- (1) US POWER CORD
- (1) 3-M 3.5-MM AUDIO CABLE
- (2) 2-M USB A-B CABLES
- (2) 2-M DP-DP CABLES
- (1) INFO WALLET

### WHAT'S INCLUDED WITH THE KVXHP-200 RX

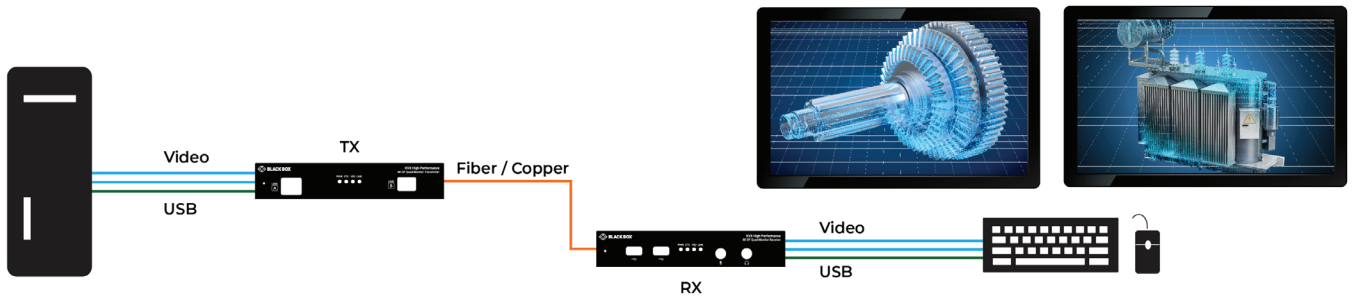
- (1) RECEIVER
- (1) 12-VDC 1.5A POWER SUPPLY UNIT
- (1) US POWER CORD
- (1) INFO WALLET

### SPECIFICATIONS FOR KVX HP SERIES DUAL-HEAD EXTENDER (KVXHP-200)

SPECIFICATION	TRANSMITTER	RECEIVER
<b>CONNECTORS</b>	Host connection: Video Input: (2) DisplayPort female Serial Control Port: (1) RJ-12 female Link Ports: (1) RJ-45 female, (1) SFP+ slot (only 1 is active) USB: (2) USB 2.0 Type B female Audio: (1) Line in, (1) Line out	Console connection: Video Output: (2) DisplayPort female Serial Control Port: (1) RJ-12 female Link Port: (1) RJ-45 female, (1) SFP+ slot USB 2.0: (3) USB Type A female (full-speed), (1) USB Type A female (high-speed) Audio: (1) Mic In, (1) Speaker Out
<b>DISTANCE</b>	CAT5e cable: Up to 164 ft. (50 m); CAT6 cable: Up to 328 ft. (100 m) MM Fiber cable: Up to 984 ft. (300 m); SM Fiber cable: Up to 2.48 mi. (4 km)	CAT5e cable: Up to 164 ft. (50 m); CAT6 cable: Up to 328 ft. (100 m) MM Fiber cable: Up to 984 ft. (300 m); SM Fiber cable: Up to 2.48 mi. (4 km)
<b>INDICATORS</b>	(4) Status LEDs (tri-color)	(4) Status LEDs (tri-color)
<b>MAXIMUM RESOLUTION</b>	4096 x 2160 at 60 Hz	4096 x 2160 at 60 Hz
<b>EXTENSION TECHNOLOGY</b>	5-Gbps CATx or 10-Gbps fiber with ultra-low latency adaptive video stream compression	5-Gbps CATx or 10-Gbps fiber with ultra-low latency adaptive video stream compression
<b>HOUSING MATERIAL</b>	Metal chassis	Metal chassis
<b>OPERATING SYSTEM</b>	OS independent	OS independent
<b>ENVIRONMENTAL</b>	Operating Temperature: 32 to 104° F (0 to 40° C); Storage Temperature: +14 to +122° F (-10 to +50° C); Operating Humidity: 0 to 80%, noncondensing	Operating Temperature: 32 to 104° F (0 to 40° C); Storage Temperature: +14 to +122° F (-10 to +50° C); Operating Humidity: 0 to 80%, noncondensing
<b>POWER</b>	External 12-VDC, 18-W power supply	External 12-VDC, 18-W power supply
<b>DIMENSIONS</b>	1.54" H x 7.32" W x 5.83" D (3.9 x 18.6 x 14.8 cm)	1.54" H x 7.32" W x 5.83" D (3.9 x 18.6 x 14.8 cm)
<b>WEIGHT</b>	2.84 lb. (1.29 kg)	2.73 lb. (1.24 kg)

# APPLICATION DIAGRAM: K VXHP-200

K VX HP SERIES DUAL-HEAD EXTENDERS (K VXHP-200)



# SPECIFICATIONS

## KVX HP SERIES QUAD-HEAD EXTENDERS (KVXHP-400)

FRONT VIEW



KVXHP-400 Transmitter

BACK VIEW



KVXHP-400 Transmitter

FRONT VIEW



KVXHP-400 Receiver

BACK VIEW



KVXHP-400 Receiver

### WHAT'S INCLUDED WITH THE KVXHP-400 TX

- (1) TRANSMITTER
- (1) 12-VDC 1.5-A POWER SUPPLY UNIT
- (1) US POWER CORD
- (1) 3-M 3.5-MM AUDIO CABLE
- (1) 2-M USB A-B CABLE
- (1) 2-M DP-DP CABLE
- (1) INFO WALLET

### WHAT'S INCLUDED WITH THE KVXHP-400 RX

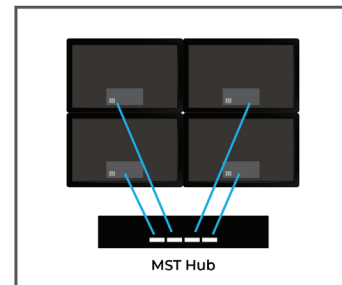
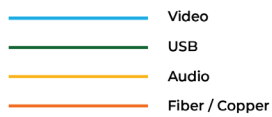
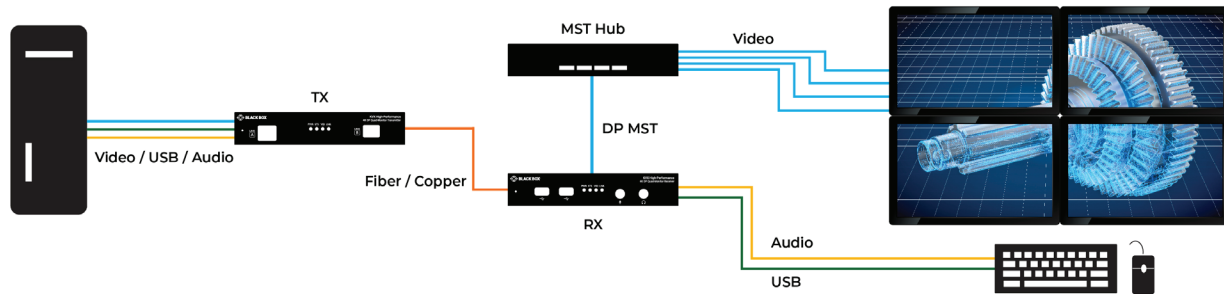
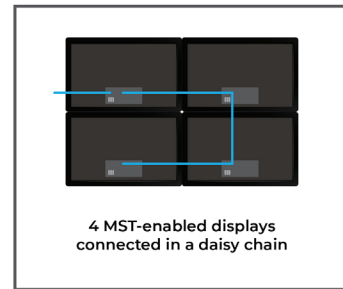
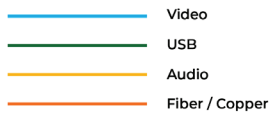
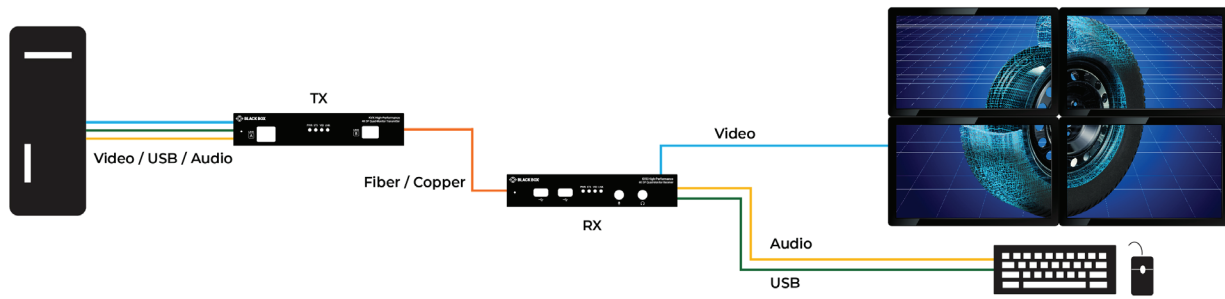
- (1) RECEIVER
- (1) 12-VDC 1.5-A POWER SUPPLY UNIT
- (1) US POWER CORD
- (1) INFO WALLET

### SPECIFICATIONS FOR KVX HP SERIES QUAD-HEAD EXTENDER (KVXHP-400)

SPECIFICATION	TRANSMITTER	RECEIVER
<b>CONNECTORS</b>	Host connection: Video Input: (1) MST DisplayPort female Serial Control Port: (1) RJ-12 female Link Ports: (1) RJ-45 female, (1) SFP+ slot (only 1 is active) USB: (2) USB 2.0 Type B female Audio: (1) Line in, (1) Line out	Console connection: Video Output: (4) DisplayPort female using MST hub Serial Control Port: (1) RJ-12 female Link Port: (1) RJ-45 female, (1) SFP+ slot USB 2.0: (4) USB 2.0 Type A female (HID), Audio: (1) Mic In, (1) Speaker Out
<b>DISTANCE</b>	CAT5e cable: Up to 164 ft. (50 m); CAT6 cable: Up to 328 ft. (100 m) MM Fiber cable: Up to 984 ft. (300 m); SM Fiber cable: Up to 2.48 mi. (4 km)	CAT5e cable: Up to 164 ft. (50 m); CAT6 cable: Up to 328 ft. (100 m) MM Fiber cable: Up to 984 ft. (300 m); SM Fiber cable: Up to 2.48 mi. (4 km)
<b>INDICATORS</b>	(4) Status LEDs (tri-color)	(4) Status LEDs (tri-color)
<b>MAXIMUM RESOLUTION</b>	4096 x 2160 at 60 Hz	(4) 1920 x 1200 (1080)
<b>EXTENSION TECHNOLOGY</b>	5-Gbps CATx or 10-Gbps fiber with ultra-low latency adaptive video stream compression	5-Gbps CATx or 10-Gbps fiber with ultra-low latency adaptive video stream compression
<b>HOUSING MATERIAL</b>	Metal chassis	Metal chassis
<b>OPERATING SYSTEM</b>	OS independent	OS independent
<b>ENVIRONMENTAL</b>	Operating Temperature: 32 to 104° F (0 to 40° C); Storage Temperature: +14 to +122° F (-10 to +50° C); Operating Humidity: 0 to 80%, noncondensing	Operating Temperature: 32 to 104° F (0 to 40° C); Storage Temperature: +14 to +122° F (-10 to +50° C); Operating Humidity: 0 to 80%, noncondensing
<b>POWER</b>	External 12-VDC, 18-W power supply	External 12-VDC, 18-W power supply
<b>DIMENSIONS</b>	1.54" H x 7.32" W x 5.83" D (3.9 x 18.6 x 14.8 cm)	1.54" H x 7.32" W x 5.83" D (3.9 x 18.6 x 14.8 cm)
<b>WEIGHT</b>	2.84 lb. (1.29 kg)	2.73 lb. (1.24 kg)

# APPLICATION DIAGRAMS: K VXHP-400

## K VX HP SERIES DUAL-HEAD EXTENDERS (K VXHP-400)





# SPECIFICATIONS

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## KVX HP SERIES EXTENDERS DATA SHEET

COMPATIBLE SFP MODULES		
PART NUMBER	DESCRIPTION	DISTANCE
10-GBPS CONNECTIONS		
LSP441	SFP+ 10GbE MM, 850-nm, LC	300 m
LSP442	SFP+ 10GbE SM, 1310-nm, LC	20 km
LSP421	SFP+ 10GBASE-SR Ext. Diag., MM, 850-nm, LC	300 m
LSP422	SFP+ 10GBASE-LR Ext. Diag., SM, 1310-nm, LC	10 km

NOTE: Other SFPs may work but have not been validated by Black Box, we recommend you use the suggested SFPs to avoid technical incompatibilities.



# ORDERING INFORMATION

ITEM	CODE
KVX HP Series Extenders	
Single-Head Transmitter and Receiver Kit	<b>KVXHP-100</b>
Dual-Head Transmitter and Receiver Kit	<b>KVXHP-200</b>
Quad-Head Transmitter and Receiver Kit	<b>KVXHP-400</b>
Accessories	
Rackmount Kit	<b>KVXHP-RMK</b>
NOTE: Kits contain (1) Transmitter and (1) Receiver	

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## ABOUT BLACK BOX

Black Box is a world leading technology solutions provider specializing in complete high-performance KVM, professional A/V signal distribution and extension and switching solutions for mission-critical applications. Black Box is dedicated to delivering superior project engineering, technical support, and 24/7 customer service you can rely on for your most critical operations.

Every day, our customers trust us to design, integrate, and maintain reliable control room solutions for broadcasting, post-production, stadiums & arenas, medical, air traffic control, oil & gas, government & military, and utility industries. Leave the tech to us and our comprehensive technology solutions will deliver secure connections, fast-response times, real-time collaboration and more.

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