Smarter Digital Signage

Driving All Digital Content

- ╱ Digital Signage Media Players
- ╱ Open Pluggable Specification (OPS)
- ╱ Embedded Software Services
- ╱ Case Studies

ADVANTECH

Enabling an Intelligent Planet

Why Choose an Advantech Industrial-Grade Solution Over Consumer Hardware?

Digital signage is the most effective media platform reaching target audiences today. Advantech has powered thousands of digital signage applications across retail, healthcare, hospitality and food service organizations, making it one of the leading platform providers in the market. Advantech digital signage appliances have always been at the forefront of technology in the industry, driving innovation and helping organizations realize the benefits of digital signage networks. Our reliable, stable, and highly scalable products ensure 24x7 operation and are delivered at a lower "total cost of ownership". These world-class hardware solutions are backed by local technical support teams to ensure an efficient, successful rollout of digital signage networks.

· 24/7 operation, robust design and longevity support
· Rich I/O features for video and audio output
· Mini PCIe slots for flexible expansion
· Customized BIOS and OS
· Compact design for easy integration with display
· Value-added accessories for deployments, wireless LAN and modules, mounting brackets, HD decoders, TV tuners and storage options

A Complete Product Range for Every Application

Value
· Cost-efficiency
· HD Support (1080P)
· Compact Size & Fanless
· Solid-state Storage Media
· Network

Mainstream
· Good Graphic Performance (Flash, Full HD content, etc.)
· Rich Video Outputs
· Flexible Expansion MiniPCIe Slot (WLAN,3G)

Advanced
· High Graphic Performance
· Full HD with Dual / Tri Display (1080p) Live Streaming

Bringing Digital Signage to Life

Public Transportation
· Real-time Information
· Public Information

8:00 am

10:00 am

Simplify Your Digital Signage Development

Intel® Open Pluggable Specification

The Open Pluggable Specification (OPS) helps standardize the design and development of digital signage devices and pluggable media players. Intel® created the OPS to address digital signage market fragmentation and simplify device installation, usage, maintenance and upgrades. The OPS enables digital signage manufacturers to deploy interchangeable systems faster and in higher volumes, while lowering costs for development and implementation. Advantech, a leading industrial computer manufacturer, promptly echoed the call for the OPS standard by forming an OPS partnership with Intel®. Advantech has since released its new OPS digital signage platform, which combines both OPS and various creative design concepts.

Installing digital signage equipment based on OPS design helps the customer implement scalable digital signage applications that can network easily with other equipment. This simplifies interoperability and application upgrades designed to meet the digital signage requirements of individual customers, while helping to future-proof technology investments.

Benefits

✓ Ease of
- · Installation
- · Maintenance
- · Upgrades
- · System Management
- · Deployment

✓ Standardized Form Factor
✓ Less Cabling
✓ Interoperability
✓ Power Saving

Standardized Design (for Display and Media Player)

▶ Form Factor
▶ Connector
▶ Pin Assignment
▶ Thermal/Mechanical Spec.
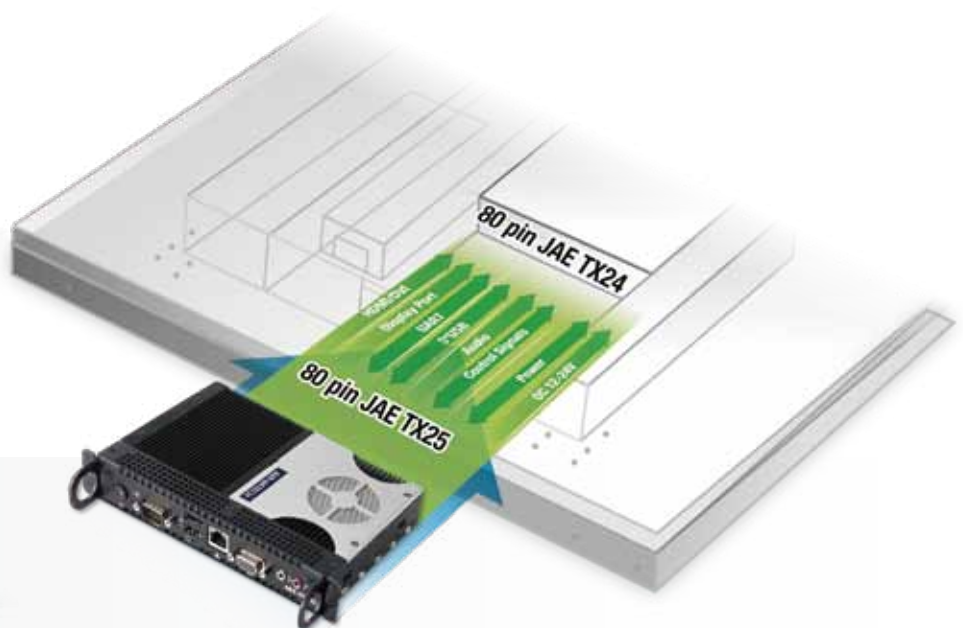
Retail

- · Advertising Display
- · Information Display
- · Interactive Signage

12:00 noon

Restaurants

- · eMenu
- · Information Display
- · Branding Communication

16:00 pm

Embedded Software Services

SUSIAccess
Remote Device Management With SUSIAccess Remote Device Management, real-time monitoring, easy access and data security are all assured. Remote management functions make maintenance easy.

Remote Monitoring

Remote Power On/Off

System Recovery

Remote KVM

System Protection

iManager With iManager Intelligent Self-management, a standardized API enables self-management, auto-protection and secure storage. This helps improve consistency, lightens the development effort, and speeds up product time-to-market.

Advanced Watchdog

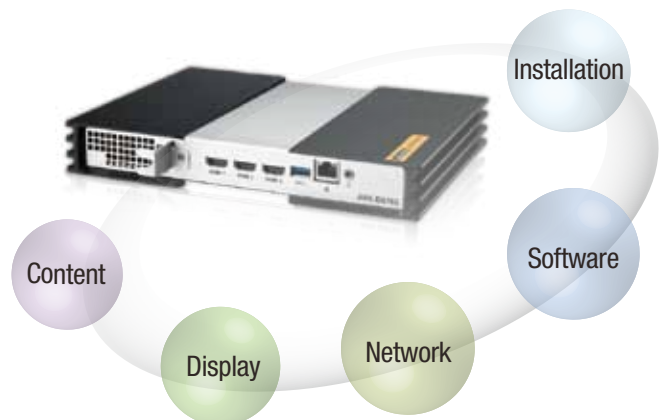Hardware Monitoring

Multi-control Interface

Power Saving

Brightness Control

Solutions Integrated with Eco-Partners

Advantech is building a digital signage alliance of strategic partners made up of leaders in each of their respective areas of expertise. Together, these partners provide all of the essential solutions for network, software, display, content and installation. Combining their strength in solutions with Advantech's digital signage players and worldwide support, creates a winning combination you can rely on.

Installation

Software

Content

Network

Display

intel Intelligent Systems Alliance Premier

AMD Embedded Solutions PARTNER

BROADCOM.

DIS≣

signagelive ●●● delivering media to your screens

PHILIPS

MITSUBISHI ELECTRIC DIGITAL TELEVISIONS

AVerMedia®

ADTRAXION awareness on the spot

NAVORI

Cnario

AzureWave AzureWave Technologies, Inc.

SCALA

AboCom

e-Education
· Interactive Whiteboard
· Real-Time Information
· Effective Communication

Hotel
· Advertising Display
· Information Display

20:00pm

Product Selection

OPS   OPS

Model Name		ARK-DS220	ARK-DS262	ARK-DS306	ARK-DS520	ARK-DS762
Features		OPS ION2-based Platform	OPS 3rd Generation Intel Core i7 Platform	AMD G-Series Platform	Advanced ION2-based Platform	3rd Generation Intel Core i7/i5/i3 Platform
Processor System	Processor	Intel Atom D525 1.8GHz Intel Atom N455 1.66GHz	Intel Core i7-3555LE 2.5GHz	AMD G-Series 1.0GHz dual core	Intel Atom D525 1.8 GHz Intel Atom N455 1.66 GHz	3rd Generation Intel Core i7/i5/i3 (PGA)
	Chipset	Intel ICH8M	Intel QM77	AMD T40N + A50M	Intel ICH8M	Intel QM77
	BIOS	AMI 16 MB SPI BIOS	AMI 64 MB SPI BIOS	AMI 16 MB Flash BIOS	AMI 16 MB Flash BIOS	AMI 64 MB SPI BIOS
	System Memory	1 x DDR3 204-pin SO-DIMM Max. up to 4GB	2 x DDR3 204-pin SO-DIMM, Max. up to 16GB	1 x DDR3 204-pin SO-DIMM Max. up to 4 GB	2 x DDR3 204-pin SO-DIMM Max up to 4 GB (D525), 2 GB (N455)	2 x DDR3 204 pin SO-DIMM, Max. up to 16GB
Graphics	Chipset	NVIDIA GT-218	Embedded in Processor	APU T40N	NVIDIA GT-218	Embedded in Processor
	Memory Size	Independent display memory 512MB	N/A	N/A	Independent display memory 512 MB	N/A
	Resolution	VGA: up to 2048 x 1536 @ 60 Hz HDMI/DP: 1920 x 1080 (via OPS interconnection)	HDMI: up to 1920 x 1080p HDMI/DP: 1920 x 1080 (via OPS interconnection)	VGA: 1920 x 1080 @ 60 Hz HDMI: 1920 x 1080 @ 60 Hz	VGA: up to 2048 x 1536 @60Hz DVI-D: single link up to 1920 x 1080 @60HZ HDMI: up to 1920 x 1080	HDMI: up to 1920 x 1080 @ 60Hz
Display Interface		1 x VGA ,1 x HDMI/DP (via OPS interconnection)	1 x HDMI ,1 x HDMI/DP (via OPS interconnection)	1 x HDMI / 1x VGA	1 x HDMI/ 1 x DVI-D/ 2 x VGA (support dual display)	3 x HDMI
I/O Interface	Audio	1 x Line-out, 1 x Mic-in	1 x Line-out	1 x Line-in, 1 x Line-out, 1 x Mic-in	1 x Line-out, 1 x Mic-in (supports jack sense)	1 x Line-out (supports jack sense)
	Ethernet	1 x RJ-45 (GigaLAN)	1 x RJ-45 (GigaLAN)	2 x RJ-45 (GigaLAN)	2 x RJ-45 (GigaLAN)	1 x RJ-45 (GigaLAN)
	Wireless LAN	via optional WLAN module	via optional WLAN module	via optional WLAN module	via optional WLAN module	via optional WLAN module
	USB	2 x USB 2.0	2 x USB 3.0	2 x USB 2.0	4 x USB 2.0	2 x USB 2.0, 1 x USB 3.0
	Serial Port	1 x RS-232	1 x RS-232	1 x RS-232	2 x RS-232	1 x RS-232
	Expansion	1 x Mini PCIe (internal)	1 x Mini PCIe (Internal)	1 x Mini PCIe (Internal)	2 x Mini PCIe (Internal)	1 x Mini PCIe (Internal)
	PSW	1 x power on/off button	1 x power on/off button	1 x power on/off button	1 x power on/off button	1 x power on/off button
Storage System	Solid State Disk	N/A	N/A	1 x Support Cfast Card	1 x Support Typel/II CF Card	1 x Support Cfast Card
	HDD Drive Bay	1 x 2.5" 160 GB HDD	1 x 2.5" 250 GB HDD	1 x 2.5" 160GB HDD	1 x 2.5" 160 GB HDD	1 x 2.5" 250 GB HDD
Power Supply	Power Management	ACPI 2.0	ACPI 3.0	ACPI 2.0	ACPI 2.0	ACPI 3.0
	Input Voltage	12 ~ 24 V DC-in (via OPS interconnection)	12 ~ 24 V DC-in (via OPS interconnection)	12V DC-in (ATX/AT mode)	12 V DC-in (ATX/AT mode)	19 V DC-in (ATX/AT mode)
	Power Consumption	Average 18W, Maximum 30W	TBC	Average 9W, Maximum 13W	Average 18W, Maximum 30W	TBC
Watchdog	Output	Interrupt, system reset	Interrupt, system reset	Interrupt, system reset	Interrupt, system reset	Interrupt, system reset
	Interval	Programmable 1~255 sec	Programmable 1~255 sec/min	Programmable 1~255sec.	Programmable 1~255 sec	Programmable 1~255sec.
Physical Characteristics	Mounting	N/A	N/A	Desktop/ Wall Mount	Desktop/ Wall Mount	Easy mounting kits for LCD or Plasma
	Dimensions (W x D x H)	200 x 30 x 119 mm (7.87" x 1.18" x 4.65")	200 x 30 x 119 mm (7.87" x 1.18" x 4.65")	204 x 44.2 x 118.2 mm (8.03" x 4.65" x 1.74")	220 x 150 x 44.2 mm (8.7" x 5.9" x 1.7")	240 x 35 x 174.5 mm (9.45" x 1.38" x 6.87")
	Weight	1.5 kg (3.3 lb)	TBC	1.3 kg (2.86 lb)	1.7 kg (3.74 lb)	2 kg (4.40 lb)
Operating Environment	Operating Temperature	0 ~ 40° C (32 ~ 104° F), operating	-20 ~ 50° C (-4 ~ 122° F), operating	0 ~ 40° C (32 ~ 104° F) (W/ HDD); 0 ~ 50° C (32 ~ 122° F) (W/ CFast or SSD)	0 ~ 40° C (32 ~ 104° F), operating 0 ~ 50° C (32 ~ 122° F) (W/ CF or SSD)	0 ~ 40° C (32 ~ 104° F), operating
	Relative Humidity	95% @ 40°C (non-condensing), operating	95% @ 40° C (non-condensing), operating	95% @ 40° C (non-condensing), Operating	95% @ 40°C (non-condensing), operating	95% @ 40° C (non-condensing), Operating
Certifications		EMC: CE/FCC Class A, CCC, BSMI Safety: UL, CCC, BSMI	EMC: CE/FCC Class B, CCC, BSMI, Safety: UL, CCC, BSMI	EMC: CE/FCC Class A, CCC, BSMI Safety: UL, CCC, BSMI	EMC: CE/FCC Class A, CCC, BSMI Safety: UL, CCC, BSMI	EMC: CE/FCC Class A, CCC, BSMI Safety: UL, CCC, BSMI
Embedded Software Options		Microsoft Windows 7, XP Pro with SP3, XP Embedded, Linux	Microsoft Windows 7, XP Pro with SP3, XP Embedded, Linux	Microsoft Windows 7, XP with SP3, XP Embedded, Linux	Microsoft Windows 7, XP with SP3, XP Embedded, Linux	Microsoft Windows 7, XP with SP3, XP Embedded
Ordering Information		ARK-DS220B-D6A1E ARK-DS220B-N5A1E ARK-DS220F-D6A1E ARK-DS220F-N5A1E	TBC	ARK-DS306B-D0A1E ARK-DS306F-D0A1E	ARK-DS520B-D6A1E ARK-DS520F-D6A1E ARK-DS520L-D6A1E ARK-DS520B-N5A1E ARK-DS520F-N5A1E	TBC

Case Studies

Real Time Display and Branding Communication for Auto Maintenance Center

Area China

Project

Our customer was working with a chain of automotive maintenance centers in Shanghai to revamp its digital signage system. Their earlier media player solution used commercial grade computers, and their frustrations with the short product life cycles sent the system integrator seeking a more rugged and enduring solution. Advantech's digital signage media players met all requirements for high-definition video and real time information delivery as well as long product life.

Requirements

· Real time information display with multimedia presentation
· Full 1080p HD output
· Gigabit LAN support
· Serial communication support for LED output
· Reliability and stability

System

When a car enters the maintenance center, a camera at the entrance scans its plate; the registration number is instantly recorded by an ARK-DS303 digital signage media player and transmitted to a central server via GLAN, and the LED board salutes the guest with a welcome message. Meanwhile, each guest in the client lounge or lobby can watch the on-screen display as his or her car progresses through the service queue; automotive mechanics in their workshops can see their work plotted on the Scheduling Dashboard display; and administrators can see the status of all the cars displayed on a Status Dashboard in the office, including the times the cars enter, their locations, and times of departure. Each display is controlled by an ARK-DS303 discreetly installed on the back of the display. As part of the automotive service company's branding strategy, the display in the lounge room not only shows car queuing info but also displays lively advertising clips at regular intervals.

The less-than-optimal operating conditions in auto maintenance workshops require more rugged computers with wider operating temperature ranges than commercial grade computers can support. When it comes to industrial computers, Advantech is the best choice; its strong global logistics network supports a long product service cycle. Advantech's ARK-DS303 is ideal in that it can be configured to deliver customized information for a variety of signage applications in different settings, delivering real-time information broadcast, along with branding benefits.

Fast Food Chain's Multimedia eMenu Delights Guests

Area China

Project

A global fast food giant, as part of their branding strategy, was revamping the digital signage systems at their restaurants in China. Their original digital signage platform was powered by commercial-grade PCs, with short product lifecycles. To overcome these frustrations, the fast food chain sought systems with greater reliability, and opted to install industrial-grade signage players instead. They also hoped that the upgrade could include support for full-HD video playback as well as content in other formats, including flash, scrolling marquees, and hi-res images, all of which they intended to use to enhance presentation of their brand image.

Requirements

· Powerful graphic engine to support HD video up to 1080p
· Compact, low profile for easy installation
· Reliability and stability
· Window XP embedded
· Rich video output interfaces
· Optional TV tuner expansion
· Supports Wireless IP connection and TV tuner card

System

As the system is aimed at displaying a variety of information including menus, promotions, news, and more, it has support various data formats, and be able to provide high quality video display. The ARK-DS520 digital signage player used in this application, powered by an Intel® Atom™ D525 dual-core processor with an integrated NVIDIA GT218 (ION2) graphic engine, supports full HD playback up to 1080p. It displays eMenus, videos, images, slides, instant information, etc. according to a scheduled playlist, which it receives from a central server.

ARK-DS520 also has a rich combination of video output interfaces for dual display; it eliminates display limitations and reduces total system cost. It also supports internal 2 x Mini PCIe interfaces for add-on functions such as wireless IP connection and TV tuner cards. The system can display full HD video and live TV content at intervals and can update display content online.

As many displays are installed, it is important for the system to have remote management to reduce maintenance costs. All Advantech digital signage solutions support Advantech's proprietary SUSIAccess, a remote management program pack that permits remote updating, diagnosis and maintenance. The auto alarm function can issue warning messages should any device in the system encounter a failure or abnormality, allowing engineers to diagnose and trouble-shoot systems from off-site. This reduces on-site maintenance costs and avoids bothering dining guests.

The ARK-DS520 ION2-based digital signage system features centralized management, easy content updating and remote hardware health monitoring. With outstanding graphic performance, a compact form factor, reliability and stability, ARK-DS520 has proved to be an ideal and cost-effective solution for the retail environment. It enriches the dining experience for restaurant guests and maximizes promotional efforts as well.

Case Studies

Multiple Display Forms Interactive "Mirror" : Exploring a New Shopping Experience

Area Western Europe

Project

Imagine that you stop by a shopping mall, stand in front of a video wall that behaves as a virtual mirror, and you can try on clothes and accessories without actually wearing. You pick items from menus on the interactive display and enjoy virtual try-ons to see how you look in those outfits. You command the device simply by moving your hands in the air without any need to touch the screen. This scenario can be realized through use of a signage player produced by Advantech. The ARK-DS762 employs a 3rd generation Intel® Core™i7 processor with a powerful graphics engine that supports three independent HDMI displays, and integrates Microsoft®s Kinect™ technology that allows a screen to become a virtual interactive mirror that can be controlled with gestures or spoken commands.

Requirements

· Powerful graphics engine supporting independent multiple displays
· Integrated with Kinect™ technology
· Compact, low profile for easy installation
· Flexibility for easy expansion
· Wireless IP connection
· Windows® 7 Embedded

System

A video wall or the interactive mirror application attracts customer attention and stimulates consumption; a powerful CPU and compelling graphics performance are musts for carrying out eye-catching advertisement or interactive applications. ARK-DS762 utilizes the 3rd generation Intel® Core™ i7 processor, so far the only processor in the market that can drive up to 3 independent HDMI displays. That is to say, ARK-DS762, despite its small, slim form factor, can support a video wall application, which, as mentioned, could formerly only be achieved with a large, servergrade IPC. This is especially good for shopping malls or high street shops, where rental costs are elevated and interior space is limited and valuable. ARK-DS762, approximately the size of a notebook, can be installed and easily hidden behind the screen. The signage player may be inserted into an accessory guide rail, so it can easily be installed and removed for maintenance without disturbing the monitors.

The integration with Kinect™ technology gives this video wall application a whimsical twist: the monitor can be transformed into a mirror. Kinect™ is a motion-sensing technology developed by Microsoft®, based around a webcamstyle add-on peripheral originally intended for the Xbox 360 video game console. Today there are ever more gesture-driven applications based on Kinect™ that go beyond video games; the proposed interactive mirror for fashion stores is one.

Advantech's ARK-DS762 is the first signage player in the industrial market that combines the 3rd generation Intel® Core™i7 CPU, Microsoft® Kinect™ technology, and Advantech's own remote control hardware monitoring technology, SUSIAccess, which provides computers with off-site system diagnosis and self-recovery capabilities. ARK-DS762 also supports wireless IP connection for remote communications. These features come together to provide a platform that can be used to build interactive displays for retail stores, stadiums, corporate lobbies, restaurants, hotels and other public spaces.

OPS Media Player for the Digital Classroom : Lets Kids See, Touch and Learn

Area North America

Project

One of our North American customers manufactures interactive installations that allow elementary school students to work, play and learn together on the surface of a kiosk-style table. The teacher delivers prepared material on the whiteboard for the whole class to see, then the kids split into groups to work on related exercises at the kiosk-style tables. This optimizes both small group and whole class learning, keeping students challenged and engaged.

Requirements

· Advanced computing & graphic engine delivering full HD quality content
· Low power consumption
· Wi-Fi module for wireless connection
· Easy installation, maintenance and upgrade
· Windows® 7 Embedded
· Great reliability, stability and connectivity

System

A digital classroom usually contains a number of electronic devices such as computers, displays, projectors, audio-visual equipment, etc. To avoid damage resulting from children's enthusiastic participation, it is important to enclose cables and wires so as to maintain a safe classroom. Each kiosk-table that our customer designed combines an Advantech ARK-DS262 signage player and audio system encased in a locked cabinet under the table; the surface of the table is a touch-display screen. All devices communicate via Wi-Fi with the interactive whiteboard, which is controlled by another OPS computer. No cables or wires are visible. Secondly, advanced computing power and graphic performance are required to deliver multimedia teaching materials with good quality resolution. Also, what the teacher writes or presents on the interactive whiteboard must also immediately appear on the table displays, making the teaching and learning process fluently interactive.

Advantech's ARK-DS262 is the OPS (Open Pluggable Specification) computer adopting the 3rd generation Intel® Core™ i7 processor, built in advanced graphics engine, with support for HDMI output for full HD content display and 3D animation applications. The OPS specification released by Intel® is an effort to help standardize the design and development of the digital signage industry, featuring a standard slim form factor, standard pluggable interface, standard signal output for easy installation, operation and maintenance. These features make it suitable for e-education applications. The ARK-DS262 also supports one internal Mini PCIe interface for add-on functions such as wireless cards, so all the material and activities can be shared and transmitted immediately between interactive whiteboard and kiosk-style tables. Furthermore, the material can be saved and uploaded to the central server by WLAN, without any USB disk.

Advantech Global Services and Support

Industrial grade products at competitive cost	Strict revision control and design reliability	Global logistics and RMA services with local support	Product longevity up to 3-5 years and superior warranty/service options	Customized embedded OS and BIOS services	Partnership with multiple software companies

Regional Service & Customization Centers

China	**Taiwan**	**Netherlands**	**Poland**	**USA**
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Penang	60-4-397-3788
	60-4-397-4188

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Jakarta	62-21-769-0525

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Bangalore	91-80-2337-4567

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Melbourne	61-3-9797-0100
Sydney	61-2-9476-9300

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Hilden	49-2103-97-885-0

France	
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South America	
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Brazil	0800-770-5355
Sãude-São Paulo	55-11-5592-5355

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