



Interactive Digital Signage Keynote • IEDEC 2012 • March 18, 2012

Neeraj Pendse, TE Touch Solutions



Agenda

- **Interactive Digital Signage Intro**
- Interactive Technologies
- Challenges/ Research Opportunities

What is Interactive Digital Signage (IDS)?



“ Classic notes of prosciutto fat, old Middle Eastern spice tones, smoke, leather, mint and minerals are all enmeshed in a precise core of crystallized red raspberry fruit. ”

14 Hands Chardonnay
That Has a 3-line Name...
2010

\$19.99 ★★★★★

Wine Spectator 2010 **90**
Wine Spectator 2009 **88**
Wine Spectator 2008 **85**
Wine Spectator 2007 **91**

Producer: Chateau St. Michelle
Region: Washington State

[Rate This Wine](#)

[PLAY VIDEO](#)

Food Pairings
Touch a dish below to view and print the recipe.

| | |
|---|--------------------------------------|
| | |
| Lemon Cream Salmon | Spring Stir Fry |
| | |
| Stuffed Pork Tenderloin | Lemon Pepper Chicken |

[Other Wines You Might Like to Try](#)

- Camera phones
- PDAs & Smartphones
- Text Messaging
- Surfing the Web
- Nextel Direct Connect*
- Mobile Broadband Cards
- Basic Use
- TV & Music Phones



[My Phone](#)

[Compare](#)



Samsung Exclaim™

Samsung Instinct® i30™

SCP-2700 by SANYO®

HTC Touch Diamond™

LG Lotus™

Treo™ PRO by Palm®

BlackBerry® Curve™ 6350 Smartphone

LG Rumor

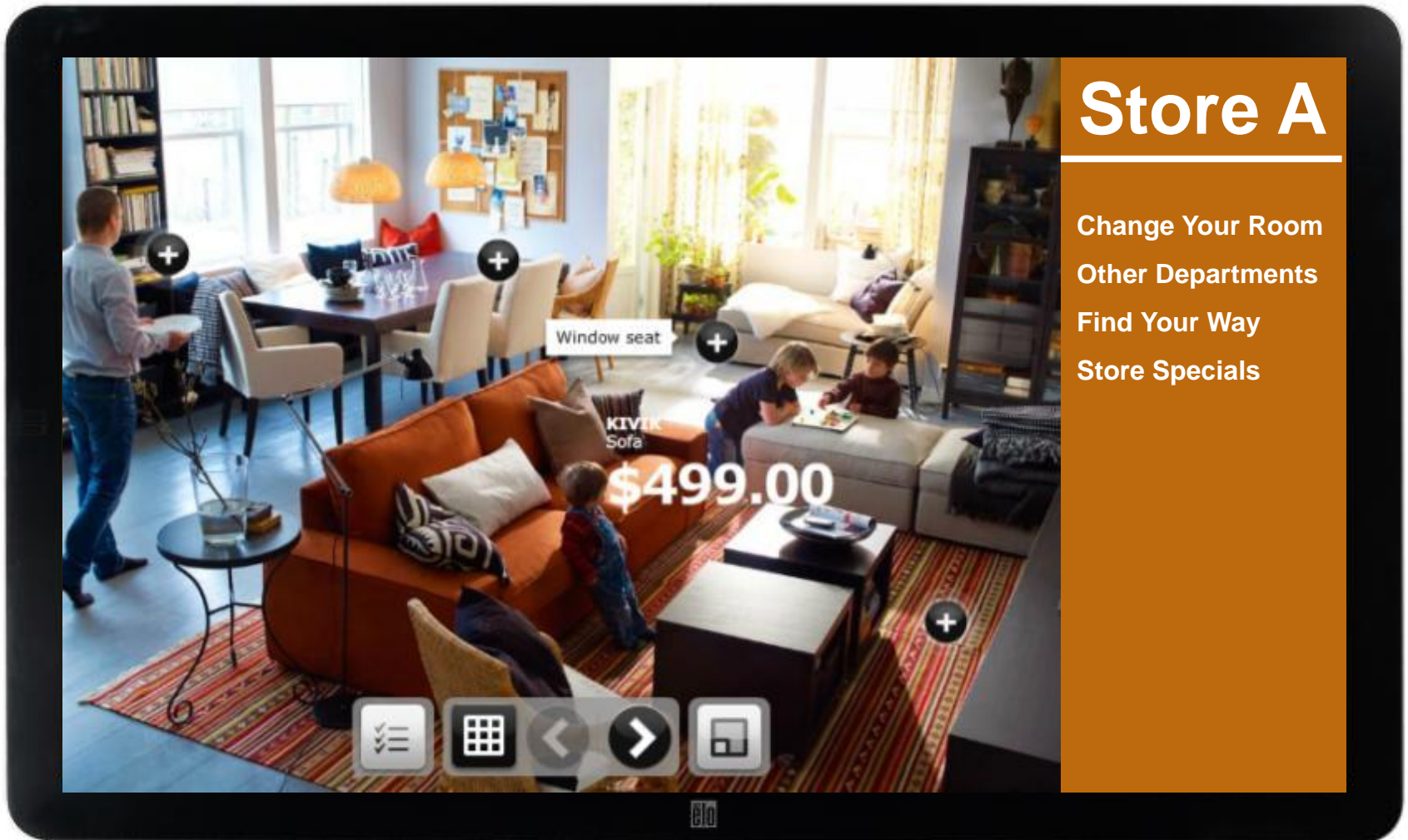
[Choose a Phone](#)

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Inspiration – Virtual, Interactive Rooms



Store A

- Change Your Room
- Other Departments
- Find Your Way
- Store Specials

The IDS market is expected to be \$3B+ in hardware, software and content by 2016 ...

Retail – Inside and Outside Store



- Advertising / Marketing
- Shopper Assist
- Browsing and Ordering
- Way finding

~\$30% of the market

Hotels, Restaurants, Casinos



- Lobby Signage
- Casino Floor Signage
- Back-of-House
- Digital Menu boards

~\$20%

Healthcare



- Patient Comm.
- Way finding
- Staff scheduling/ msg
- Building Directory

~\$10-15%

Education



- Way finding
- Whiteboards
- Building Directory

~\$10-15%

Financial Services



- Customer assist
- Product Marketing
- Queue management

~\$5-10%

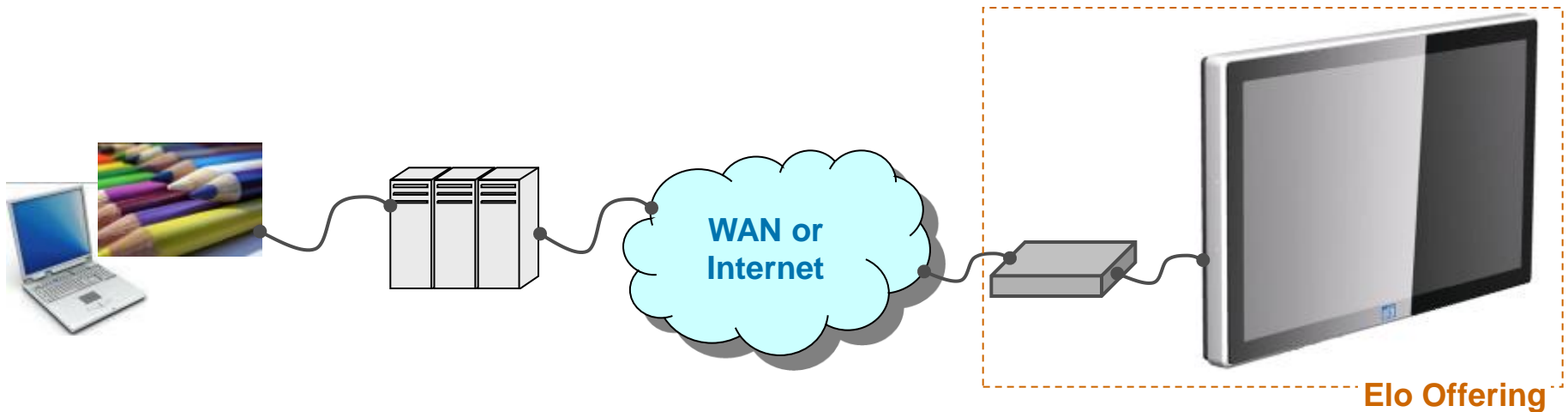
Other (Transportation, Sports, ...)



- Way finding
- Kiosk / transactions
- Corporate lobby

~\$15%

The IDS “network topology” looks a lot like the web



Content Creation

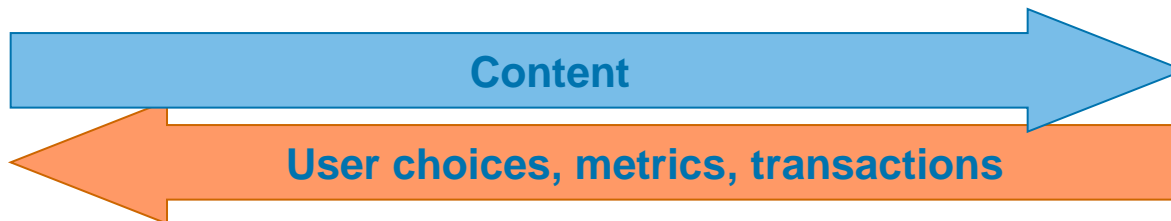
- Creative design (e.g., graphics, video, menus)
- Layout on display
- 3rd party aggregation
- Programming

Content Management

- Storage
- Downloading/ streaming
- Scheduling & management
- Reporting and metrics

End-point Hardware/ Software

- “Media player” = Computer
- Client software to download and play content
- Touch driver
- Local content cache



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Touchscreen is the dominant method of interactivity today

1990's

Traditional

- Single touch, precise
- "Long life"
- Infrared, SAW

2000's

Mobile/Consumer

- Sensitive, intuitive
- Multi-touch
- Projected Capacitive

2010+

Large format

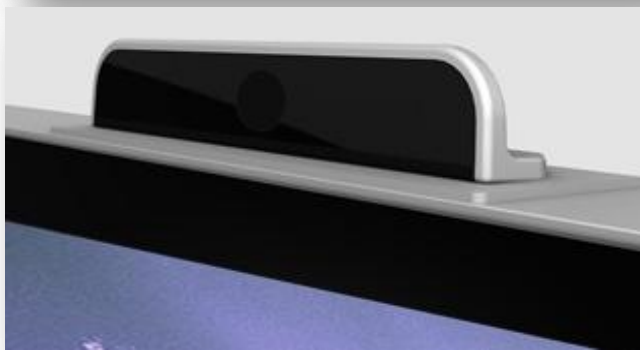
- "iPad like" desired
- Rugged
- Narrow border

Finding the best touch for Digital Signage is a Work in progress

Optical Vs. Other Touchscreen Technologies in IDS Applications

| | Optical | Capacitive | SAW | Infra-Red | APR |
|------------------------------|---------------------|------------|------------------|---------------------|---------------------|
| Activation force | Very Low | Low | Low | Very Low | Medium |
| Transparency | >90% | ~85 – 90% | >90% | >90% | >90% / Lower |
| Resistance to contaminants | Medium | High | High | Medium | High |
| Multi-touch | Yes | Yes | 2-touch | Yes | No |
| Suitability for large size | Good | High cost | Medium cost | High cost | Good |
| Touch object | Any pointing device | Finger | Any soft object | Any pointing device | Any pointing device |
| Sensitivity to ambient light | Yes | No | No | Yes | No |
| Reliability | 1-3 years | 1-3 years | High (10+ years) | High | High |

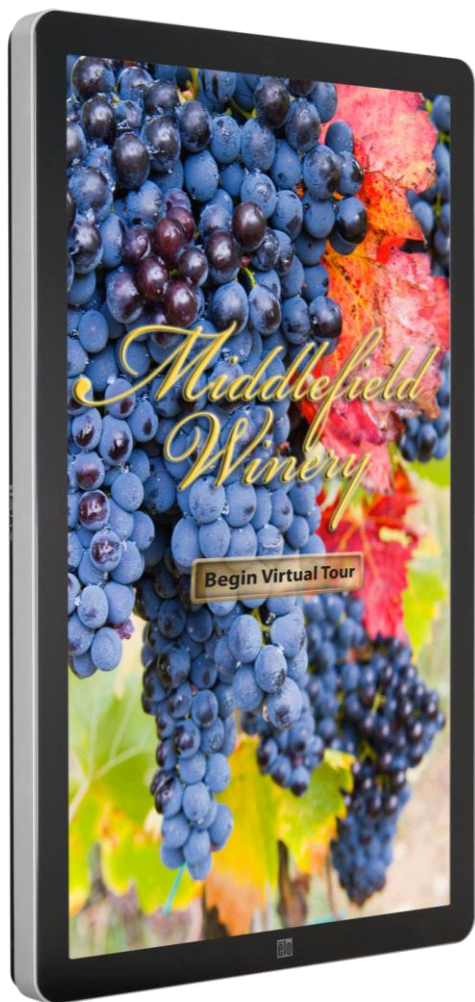
“Passive” interactivity: Anonymous video analytics



- **Function:** Determine How many views, when, how long, and demographics
- **Objective:** Provide more engaging
- **Intel® AIM Suite*** – Commercially available product

* Other brands, products and names are the property of their respective owners

Significant research opportunity in interactivity technologies yet unexplored



← Touch →

← Gestures →

← Video Analytics →

← Face Recognition →

← Voice →



← RFID →



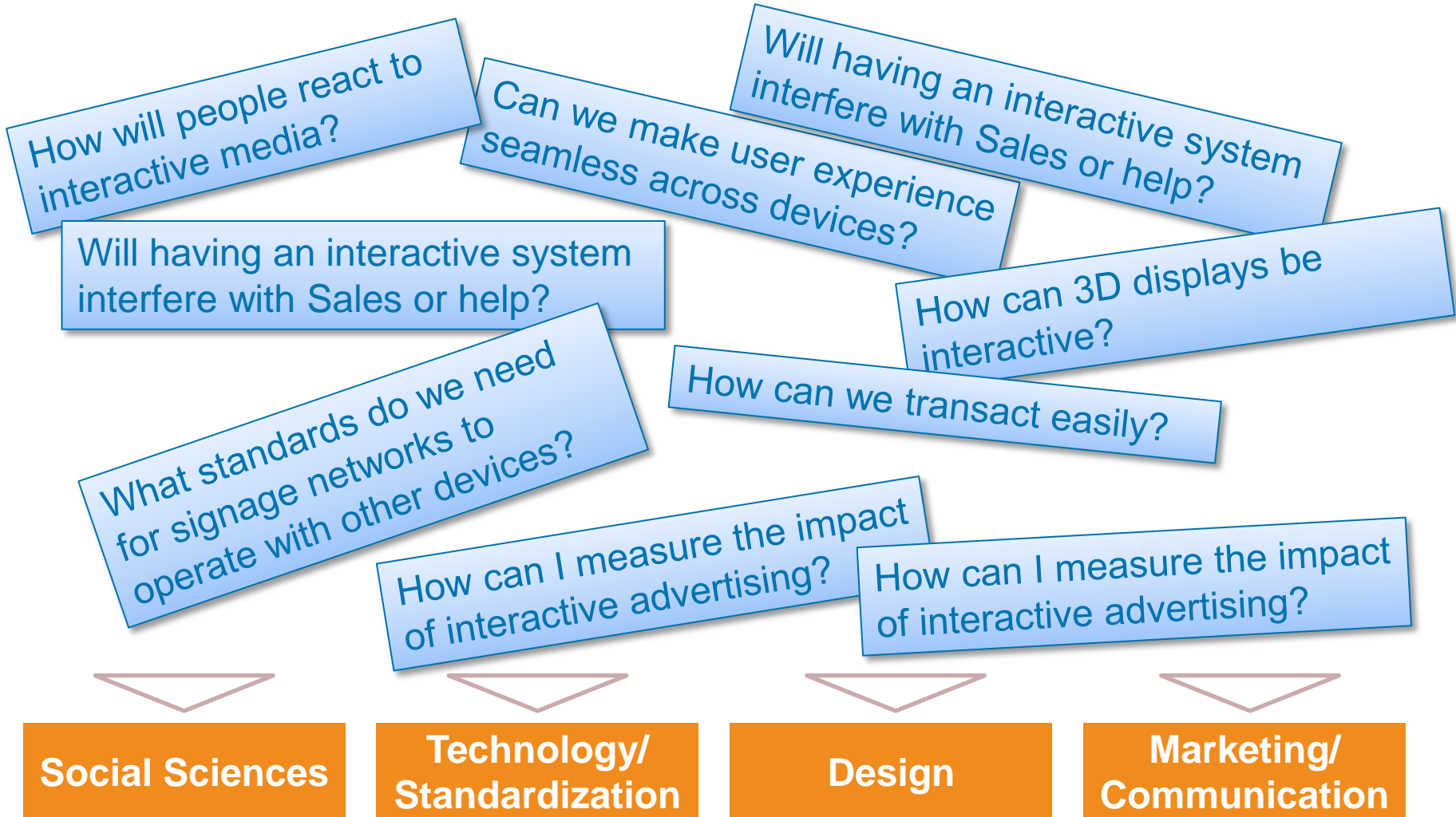
Mobile Devices



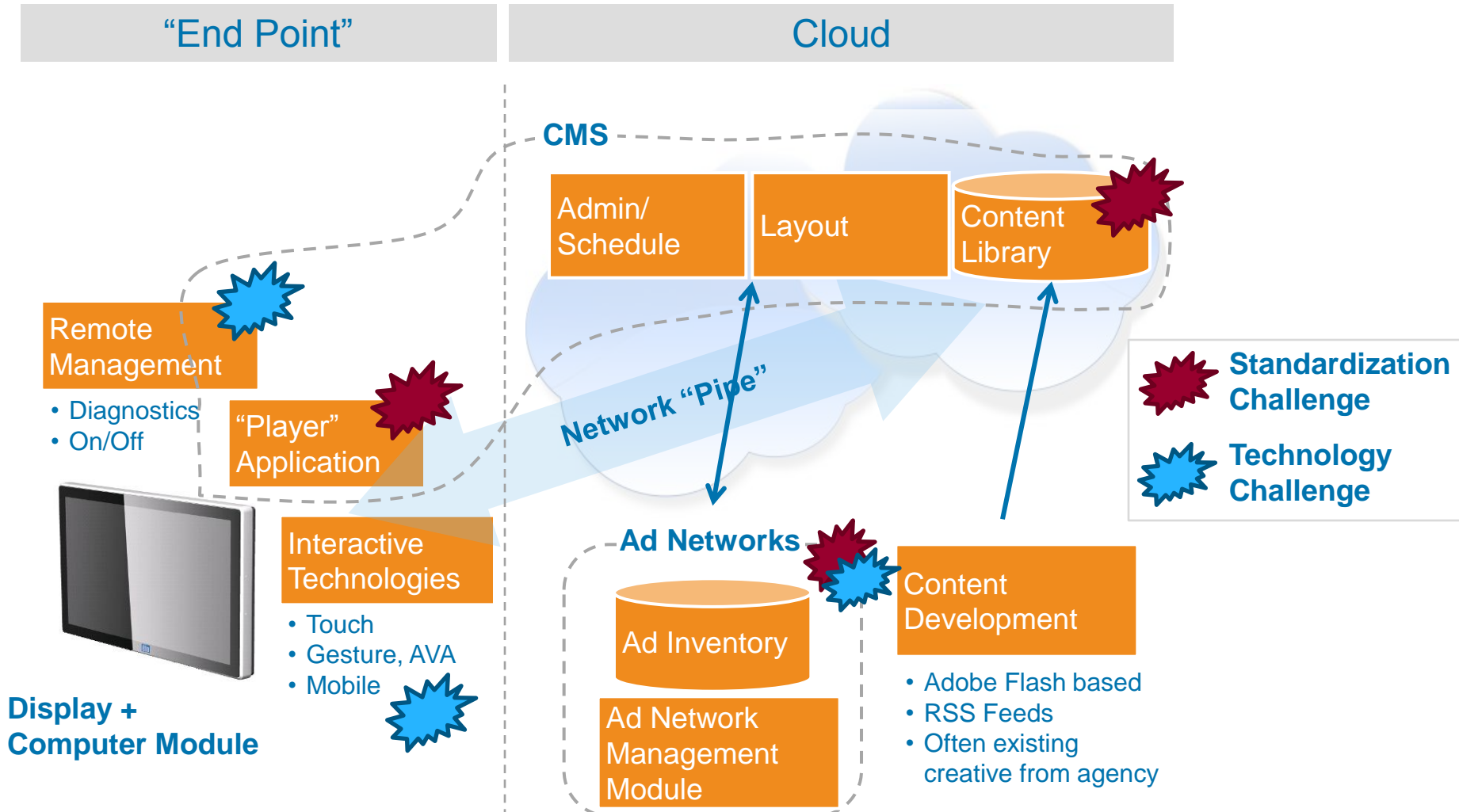
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The industry is struggling with a number of challenges today



Diving Deeper: Technical challenges in the ecosystem

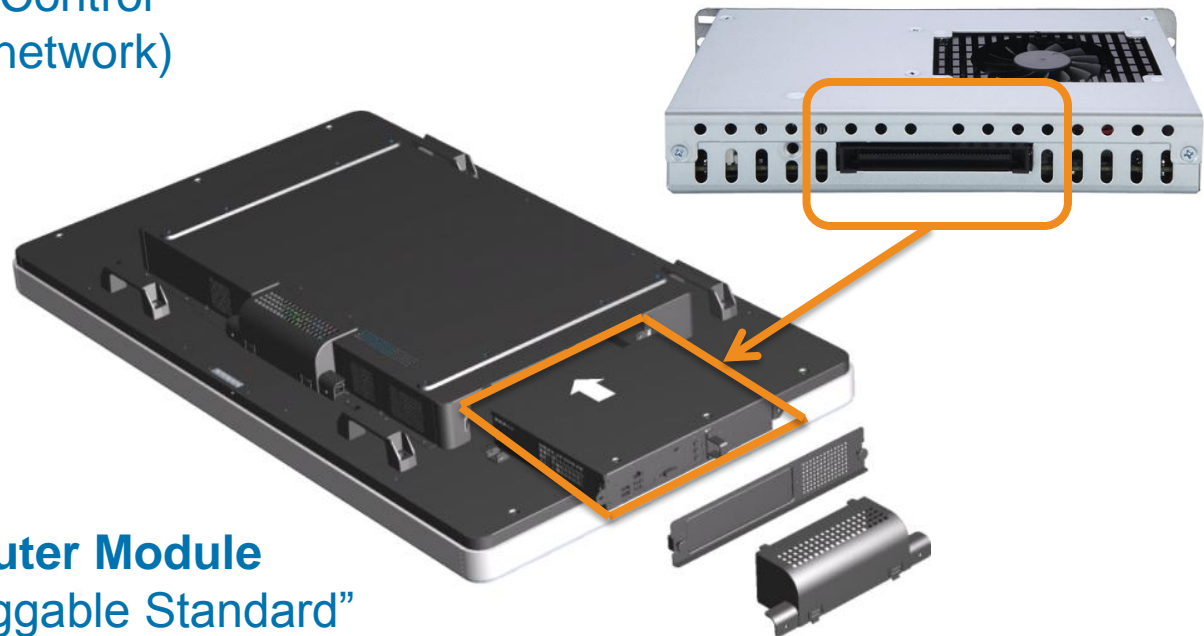


Limited standardization on display hardware for network applications



Serial IN/OUT

Monitor Diagnostics and Control
(API accessible through network)

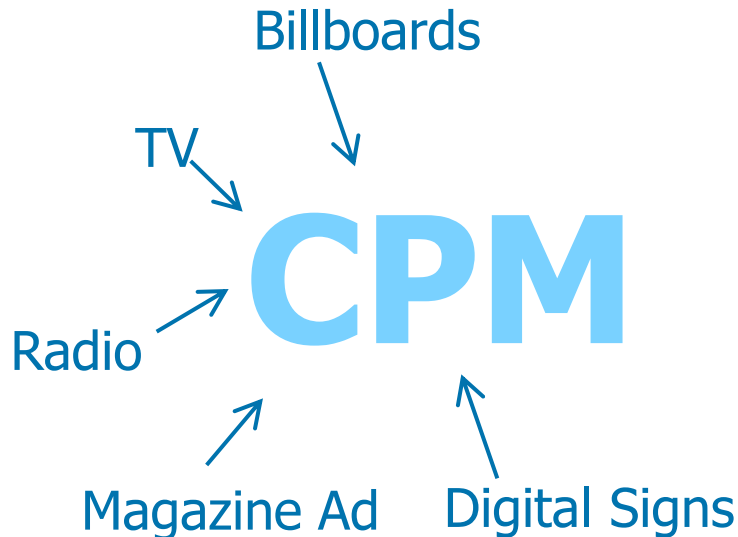


Slide-in Computer Module

Intel "Open Pluggable Standard"

Interactive advertising is limited by the dominant ad metric – “Cost per Impression”

One-Way Media



Interactive Media



- Inherently know more about users
 - Is user looking for food?
 - Is it a male or female?
- Potential to “take message away with you”

A Cost-per-Click type model is required

Many companies active in the marketplace = Ample Opportunities

Existing Large Companies

- Cisco
- DirecTV
- Ingram Micro (Distribution)
- Intel
- LG
- NEC
- Philips
- Samsung
- Sony
- TE Connectivity

New Companies

- Array Interactive
- BrightSign
- Flypaper
- Four Winds Interactive
- Industry Weapon
- Intava
- Kinemo
- Scala
- Stratacache
- YCD Multimedia

Thank You / Questions

neeraj.pendse@te.com