



# New Generation SD 3.00 Overview

**SD Card Association**

**August 2009**

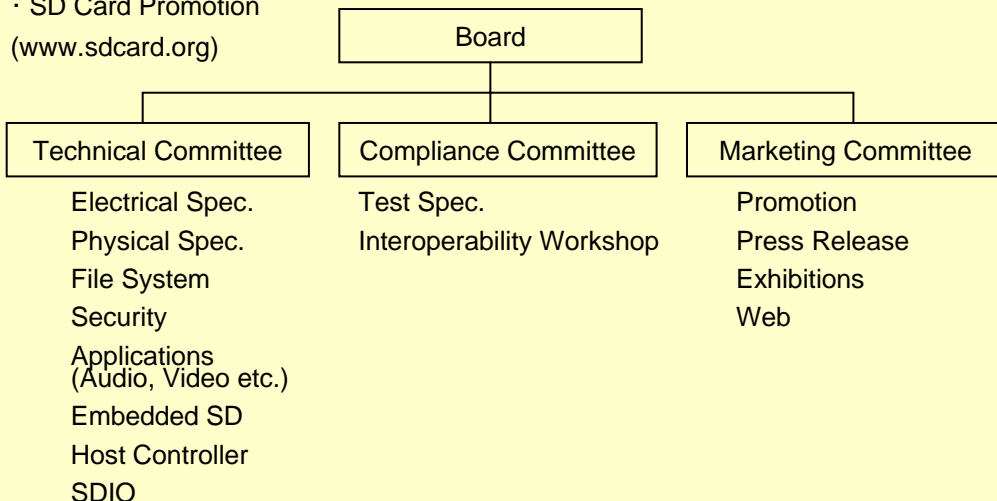
# SD Snapshot

- SD is the world-leading, de facto standard for removable memory cards
- SD specification is implemented in 78 percent of slotted mobile phones (iSuppli)
- SDA sets industry standards and promotes SD product acceptance
- SDA has 1,100+ member companies









# SD Association and SD Card Standards

## SD Association (SDA)

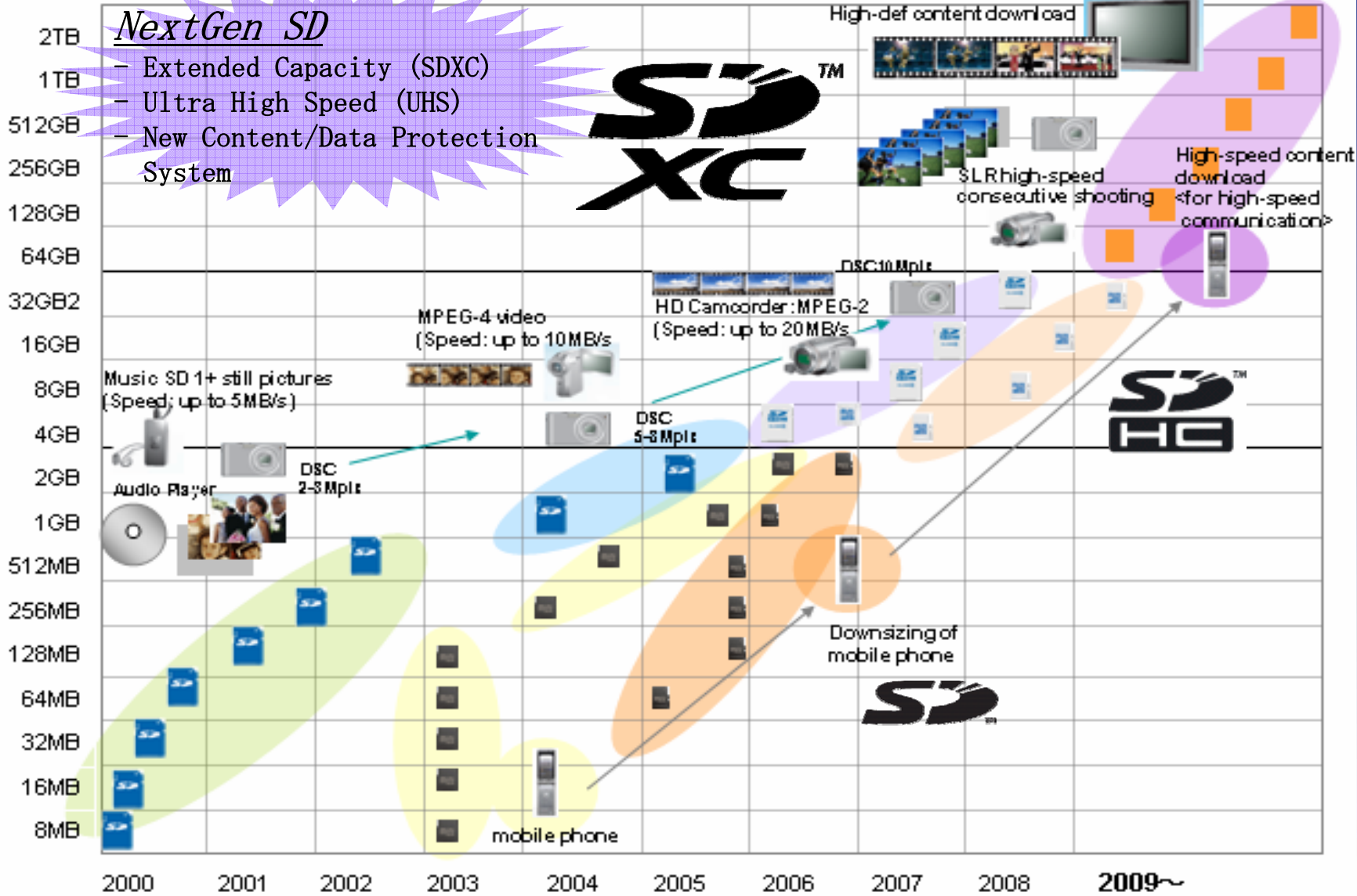
- SD Card Standardization
  - SD Card Promotion
- (www.sdcard.org)



- Established in January 2000
- Over 1,100 member companies
- No. 1 share removable memory cards
- Membership fee ••• \$4,500/year for Executive Member, \$2,000/year for General Member

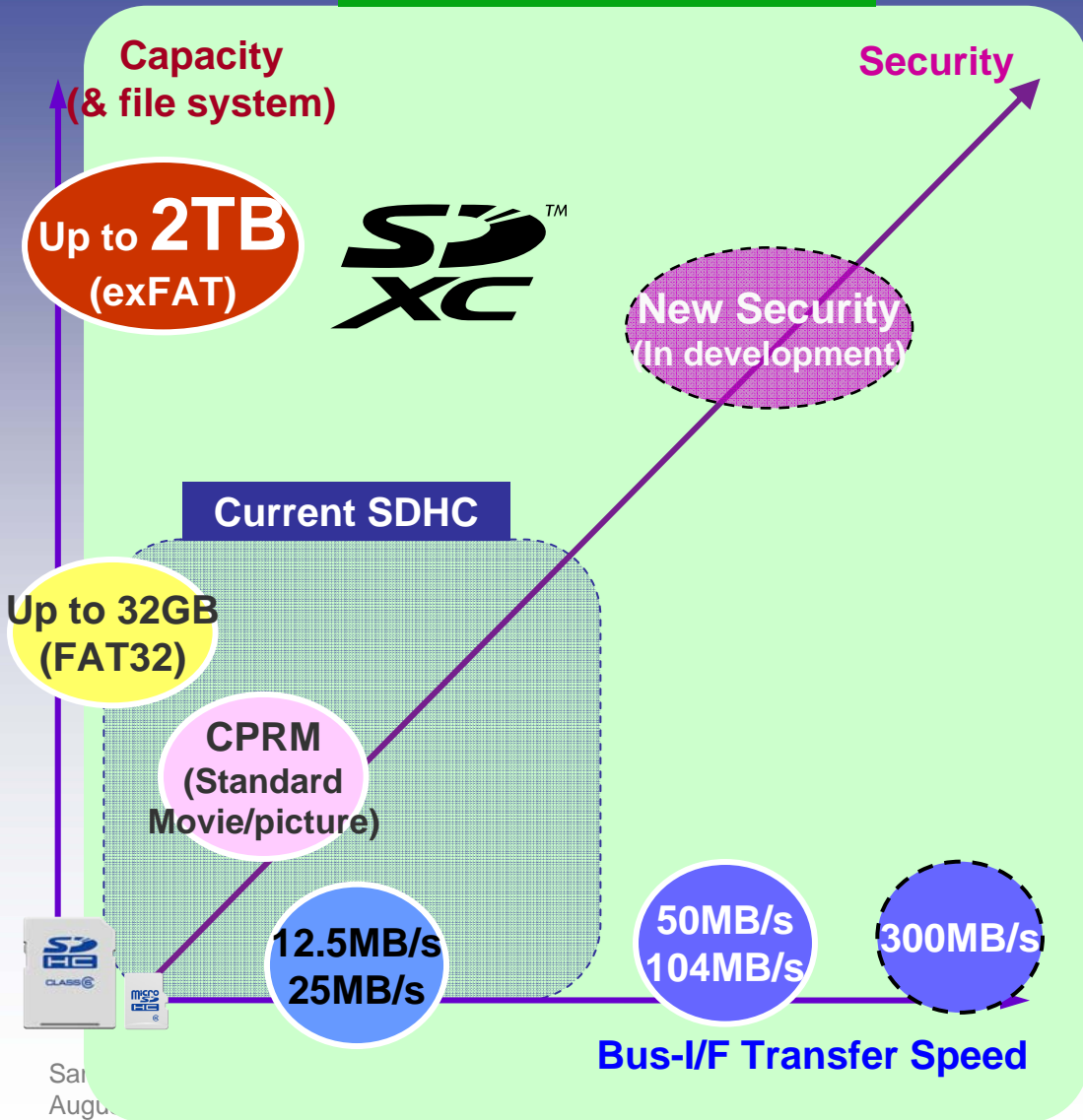
Capacity	SD	miniSD	microSD
to 2GB			
Over 2GB-32GB			
Over 32GB-2TB		N/A	

# SD 3.00 Announcement in Jan. 2009



# Next Generation SD Card Roadmap

## Next Generation SD



### Larger Capacity

- 32GB < SDXC ≤ 2TB
- exFAT as its standard file system  
(enables to store data size more than 4GB)
- SDXC (eXtended Capacity)

### Faster Speed Performance

- Faster Bus interface speed
  - 50MB/s to 104MB/s for 1<sup>st</sup> phase (UHS-1)
  - 300MB/s is final target (UHS-2) with LVDS

# SDXC Market Opportunities

- **HD Content - Portability**
  - Store HD content directly on SDXC memory card
  - Play HD content with car entertainment system, game console, AV viewer or television
  - Download content to SDXC from kiosk at train station/airport
- **HD Camcorders/Digital Cameras - Speed**
  - Shoot professional quality video with compact consumer recorders
  - HD high-speed consecutive shooting with digital cameras (6fps to 60fps)
- **Mobile Phones - Capacity**
  - Use a variety of content from different sources
  - A microSDXC card will store large quantities of data and applications on handset

# SD Card Capacity and Bus Speed

Bus Speed

300MB/s

UHS-II

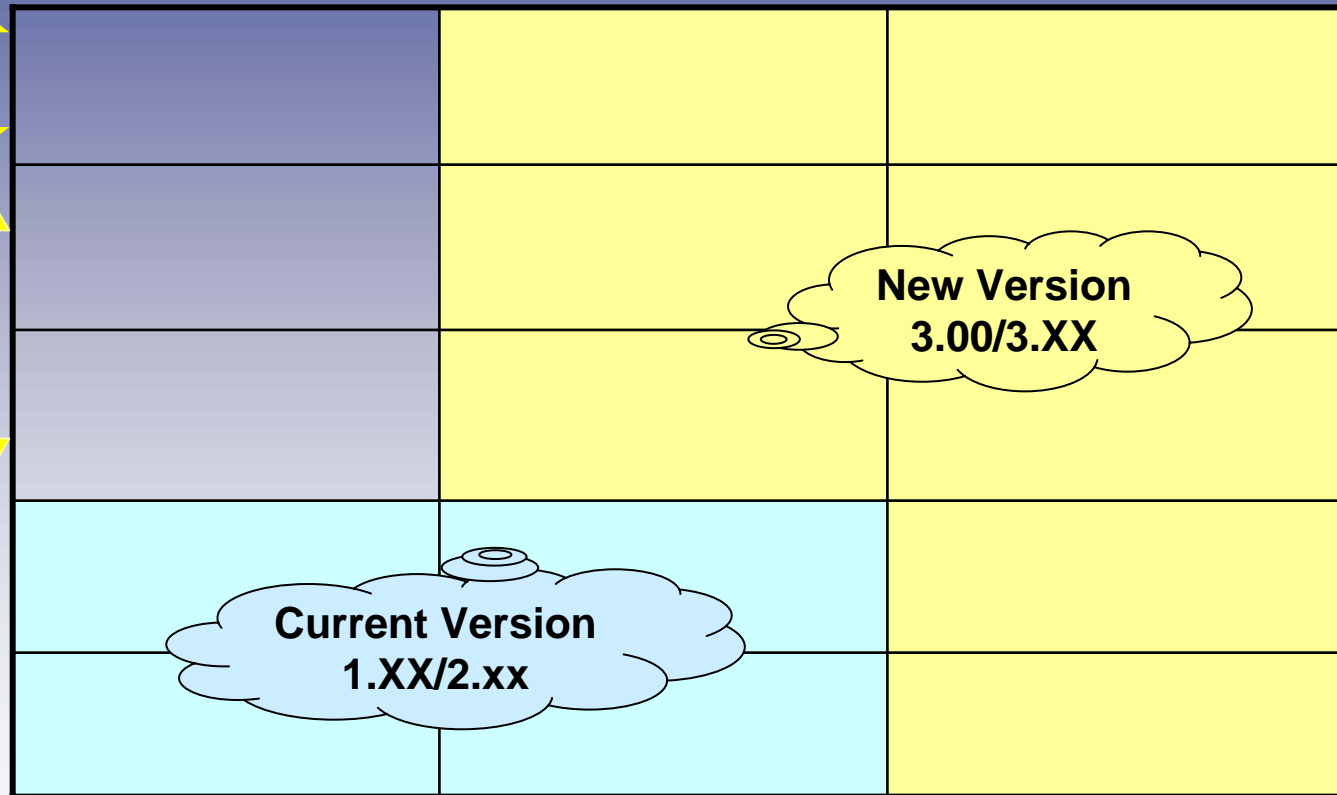
104MB/s

UHS-I

50MB/s

25MB/s

12.5MB/s



2GB

32GB

2TB



Capacity

# SDXC Logos / Card Markings



- Logo marks for SD 3.0 cards greater than 32GB up to 2TB
- 'eXtended Capacity'
- Uses exFAT file system
- Full definition to be published in Logo Guidelines, Version 3.0

## Compatibility

- SDXC hosts fully backward compatible with SD/SDHC cards
- SDXC cards will work only with SDXC (exFAT) hosts



# Logo and Capacity Guideline

## ■ SDHC/SDXC card and capacity example

<definition>

- SD card: up to 2GB
- SDHC card: more than 2GB, up to 32GB
- SDXC card: more than 32GB, up to 2TB



Correct Logo Mark



Correct Logo Mark



Correct Capacity

# SD/SDHC/SDXC Hosts and Cards Interoperability

**SD Host**  
**File System**



FAT12/16



FAT32  
FAT12/16



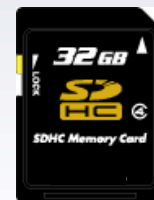
exFAT  
FAT32  
FAT12/16



**SD Card**  
**File Format**



FAT12/16



FAT32



exFAT

# SDXC - Summary

- Up to 2TB capacity
  - 100 HD movies
  - 480 hours HD recording
  - 136,000 fine-mode photos
- Read/write speeds from 50MB/s to 104MB/s this year (UHS-1)
- Road map to 300MB/s (UHS-2)
- SDXC, microSDXC

- Next SDA Member's meeting:
  - Shanghai, China
  - Oct 15, 16, 2009
  
- For more information about SD3.0, SDXC and SD Card Association
  - <http://www.sdcard.org>