### Before SanDisk

#### Prior to 1982
- You needed film to take pictures then take in to store for development; you saved the negatives.
- Polaroid was instantaneous!
- You carried your walkman in your back pocket or a 10-pound “boom box” on your shoulders.
- And then there was the “car” phone.

#### 1982
- Philips celebrates 25th anniversary of the compact disc
- World’s first CD manufactured at Philips factory near Hanover, Germany
- Sony unveils shoulder-mount HDV camcorder and expanding its range of products based on the HDV high-definition tape

#### 1984
- Flash memory (both NOR and NAND types) was invented by Dr. Fujio Masuoka while working for Toshiba in 1984
Now it goes like this:

1. From email to TV/STB; PDA Phone to MobileTV.
2. Lots of cheap memory and extremely functional devices.
3. SanDisk is everywhere: in the workplace, at home, in phones, in cameras, …!
4. We are enabling people everywhere to carry around and manage their life’s memories and personal content.
Our Mission

To enable people everywhere to carry around and manage their life’s memories and personal content

Store Your World in Ours®
About SanDisk

- A Silicon Valley high technology success story—founded in 1988
- Invented CompactFlash & co-developed all major card formats
- Designs & manufactures its own flash memory chips & cards
- Completed fourth NAND flash fab in Japan; currently world’s largest
- Opened assembly plant in Shanghai in September 2007
- $3.9 Billion in revenue for 2007 with 3,500+ employees worldwide
Growing Global Reach: 220,000+ Storefronts Worldwide

57,000 storefronts added in 2006, 20% more than 2005

**Americas**
- Best Buy
- Brooks/Eckerd
- Circuit City
- CompUSA
- Wal-Mart
- Costco
- K-Mart
- Musicland
- Office Depot
- Staples
- Sears
- Rite Aid
- Radio Shack
- Meijer/Food
- Safeway
- Kroger
- HEB
- AAFES
- MDI
- GameStop
- Sprint
- Verizon
- Bell World
- Best Buy
- Blacks
- Costco
- London Drugs
- Radio Shack
- Sears
- Shoppers Drug Mart
- West Fair
- Canada Tire

**Europe**
- T Mobile
- Carphone Warehouse
- Woolworths
- Dixons
- Orange
- Wal-Mart
- Camara
- Euronix
- FotoSistema
- Fotoco
- FNAC
- Foto Service
- Germanos
- Internet shops
- Knut Leclerc
- MakroMarkt
- PhotoStation
- Pulsat
- RIC
- Ringfoto
- Schlecker

**Asia/Pac Rim**
- Best
- Coles
- Fortress
- Broadway
- Lotte
- Costco
- Sunfar
- GoMe
- SuNing
- DahZong
- Officeworks
- Big W
- Harris Tech.
- Good Guys
- H Norman
- Woolworths

**Japan**
- Aeon
- BIC
- Best
- Edion
- K’s
- Kitamura
- Kojima
- Lawsons
- Matsukiyo
- Yamada
- Yodobashi

37,000+ Food & Drug
60,000+ Mobile Stores
SanDisk Introduces the Stylish Sansa (R) Fuze(TM) MP3 Player

In addition to playing music, video, photos, FM radio and audiobooks, the thin Sansa Fuze is packed with extras, including a microSD card slot to add and transport content with ease; a voice recorder to capture thoughts on the fly, and a bright, 1.9” color screen that allows users to easily navigate their music or watch videos in landscape mode.

Cost: $79.99
HANNOVER, GERMANY, March 4, 2008

This unique device fits into the ExpressCard™ slot of your PC, automatically and continuously backing up and encrypting critical data onto an SD™ flash memory card.

The adapter comes with easy-to-set up software for Windows-based laptops. Once installed, users pre-select backup sources by individual files, folders and/or file types. Then the device backs up and encrypts the user’s data, images, music and other files – automatically and continuously – from the computer’s hard drive to the memory card. Backup occurs as soon as there is a change to a designated file, or when a file is added or deleted.
MOBILE WORLD CONGRESS, BARCELONA, SPAIN, Feb. 11, 2008

iNAND is designed for the latest mobile handsets, which feature a growing number of storage-intensive features including music players, digital cameras, and video recording, playback and GPS capabilities.

“As more and more applications and multimedia capabilities converge within sleeker mobile handsets, the need for high-capacity mobile storage increases substantially from year to year. The new 16GB iNAND is the ideal solution for accommodating mobile applications, operating system programs and premium content such as large quantities of music, photos and video.”
LAS VEGAS, NEVADA, January 31, 2008
“As cameras offer more megapixels and as new high-definition ‘record-to-memory-card’ camcorders are being introduced, the image sizes and files get bigger, requiring higher card capacity.”

“Cameras also are increasingly used for recording video clips, which demand even more memory and capacity. While the faster write speed can reduce the time between shots and the faster read speed reduces time spent waiting to copy those images to a computer.”
LAS VEGAS, NEVADA, January 7, 2008

SLIMMER SANDISK SSD TARGETS NEW NOTEBOOKS
Joining SanDisk’s growing portfolio of solid-state drives (SSDs) for portable computers is a slimmed-down 1.8-inch Serial ATA (SATA II) model that is aimed at a new generation of ultralight notebooks. Designed to be a drop-in replacement for hard disk drives, the new SATA drive is just 5mm thick and weighs 40 grams – about 30 % less than a same-size hard disk drive.

SANDISK CRUZER CROSSFIRE IN 8 GIGABYTES
PC gamers can store their game data, download portable casual games and demonstrations, and save their replays with this new 8GB.

SANDISK MEMORY STICK PRO DUO
Owners of the popular Sony® Playstation® Portable (PSP®) will soon be able to buy this new card, offered in a translucent green. Allowing users to save game data as well as store and play digital music, videos and still photos.
But before we talk about dancing

- Cecilia, the person
- Journey on becoming CIO
  - Decisions made, e.g., left good job due to CIO position not being available
  - Look for opportunities and go for it
  - Luck, timing and who you know
  - Relevant position to influence, drive and make a difference
  - “Seizing the moment!”
The elephant is an analogy for Information Technology (IT), because:

- IT often viewed by end users as
  - Slow to move
  - Difficult to redirect once in motion
  - Consumes a large amount of resources
  - Very methodical, process oriented
  - Devastation (failed projects) in it’s wake
  - Having a long memory (we tried that before, it didn’t work)
  - Creates a lot of noise
  - If it moves like an elephant, eats like an elephant, makes noise like an elephant then ……..
CIO Evolution
- 70’s first to appear
- 80’s – technology focused
- 90’s - integration focused
- 2000’s – information focused
- 2010’s – value focused

Evolution Driven By Several Factors
- Moore’s Law – doubling of computer power every 18 months – computers everywhere!
- Storage capacity doubling every 12 months – an ocean of digital data!
- 2004 EMC study reported that “humankind will generate more original information over the next three years than in the previous 4,000 years combined.”
Key Challenges for the CIO

- **Data** – “we’re drowning in it”. How can it be made useful, actionable, available at the right time and right place?
- **Integration** – “why doesn’t system A talk to system B and B to C and A to C…..?”
- **Efficiency** – How to do more with less?
- **Simplification** – How to make something that is inherently complex, simple?
- **Language** – Teaching IT to talk in business speak not techno babble.
- **Value** – Are we getting the “right” bang for our IT $?
Lessons Learned From a CIO (Risky Job) Perspective (con’t)

- How long does a new CIO have?
  - 3 months to show some visible signs of change
  - 6 months for the changes to reflect a consistent pattern
  - 12 months for the changes to be “judged” by the executive team

- At the end of a year, the Information Elephant will not be dancing, but there should be a significant shift (towards the positive) in user perception, otherwise

- Career is over
CIO as Business Leader

- IT transformation to lead the business
- Broader skills needed to operate in business space
- CIO background to include non-IT experience
- Business will expect IT solutions that attract, engage and retain customers
- IT must step up to add value to the business
- Tight integration between CIO and company executives
IT Value-Add

- Innovation has become an important initiative to demonstrate value to the business and provide competitive advantage
- Concentrate on providing services
- Focus on modularity (which is not present in most corporate IT systems today)
- Innovation roadmap
  - Product Lifecycle Management
  - Manufacturing
  - Supply Chain Management
  - Customer Service
Summary

- What does the future look like?
- How long does it take to make the information elephant dance?
**Glossary**

- **CE:** Consumer Electronics
- **GPS:** Global Positioning System.
- **iNAND flash memory:** SanDisk iNAND, a small, easily integrated high-speed NAND flash storage device that is available in capacities and price points that make it an attractive alternative to micro hard drives. Embedded flash memory is a popular storage solution for consumer electronics products such as MP3 players, GPS devices, personal media players and mobile phones.
- **microSD:** Format for removable flash memory cards. It is derived from SanDisk TransFlash and is used mainly in mobile telephones, but also in handheld GPS devices, portable audio players, video game consoles and expandable USB flash memory drives.
- **MobileTV:** Television service delivered to subscribers via mobile telecommunications networks, such as the mobile phone carriers.
- **MP3:** Digital audio encoding format.
- **NOR and NAND:** Flash chips are constructed of either NOR or NAND logic gates. NOR works like a computer’s memory, developed by Intel in 1988, NOR flash supports one-byte random access, which means machine instructions can be fetched and executed directly from the flash chip just like computers fetch instructions from main memory. While NAND functions like a hard disk, e.g., in a digital camera, a NOR flash chip holds the software, while NAND flash is the chip in the memory card for storing images. Developed by Toshiba a year after Intel’s NOR flash, NAND functions like a disk rather than memory.
- **PC:** Personal Computer.
- **SATA:** Serial Advanced Technology Attachment is a computer bus primarily designed for transfer of data between a computer and mass storage devices such as hard disk drives and optical drives.
- **Secure Digital (SD):** A flash (non-volatile) memory card format developed by Matsushita, SanDisk and Toshiba for use in portable devices, including digital cameras, handheld computers, PDAs, mobile phones and GPS units, as well as the Nintendo Wii video game console.
- **SDHC (Secure Digital High-Capacity):** Flash memory cards with a minimum capacity of 4GB (gigabytes).
- **Set-Top Box (STB):** A device that connects to a television and an external source of signal, turning the signal into content which is then displayed on the television screen.
- **SSD:** Solid state drive is a data storage device that uses solid-state memory to store persistent data.