



# Special Open Tutorial on SSDs and Cloud Computing

## Tutorial Introduction

**Doron Myersdorf**  
**Sr. Director of Marketing, CSS**  
**SanDisk**



- What is cloud computing?
- Why is the cloud good for the end-user?
- Potential cloud bottlenecks
- Cloud servers and SSDs
- Emerging SSD Segments
- Summary

# What is Cloud Computing?

- Cloud computing is an Internet-based computing model in which resources, software and content are shared and can be used by connected devices on-demand, like a public utility.





# The cloud is here

- It is already happening
- It is dramatically changing the way we store and consume content
- We use new types of devices to easily connect to the cloud on the go

# Why is the cloud good for the end-user?

- The cloud is accessible from anywhere, on any computing device
- It has simple user interface and hardware requirements – browser only
- Cost efficient (many times free)
- Maintenance free





# SSDs enhance the cloud model

- Performance
- Mobility
- Cost



## Cloud servers use flash to improve performance and cost

- MLC flash memory provides a much better performance than an HDD
- On cloud servers:
  - One SSD can replace dozens of HDDs
  - Cost of Ownership is reduced
- With SSDs, cost per IOPS is reduced



## With the cloud, Client storage will also shift to SSDs

- The appearance of convergent devices: Better client performance with SSDs
  - Less local storage capacity is needed for cloud usage
  - “SSD-aware OS” is gaining momentum (Win 8, Chrome)
  - Smaller form factor, better reliability
  - Ongoing decrease in SSD price
  - Cloud connectivity devices become more mobile and reliable
- We are now seeing an ongoing increase in the attach rate for SSD



# With the cloud, client storage will also shift to SSDs





# Emerging SSD Segments

- Convergent devices need SSDs for:
  - Lower cost with less capacity
  - Faster and lighter experience of connectivity to the cloud
- Cloud Servers
  - Growth of SSD usage in data centers for better cost/IOPS
  - Flash is being used to cache cloud network traffic

- Cloud computing is impacting the way we consume and store content
- SSDs' fast performance and consistent cost decline align well with cloud usage models
- Convergent devices are now being designed as SSD only
- SSDs are becoming more pervasive in both Enterprise storage and client devices due to the cloud usage model



Thank You