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# **Managing Innovative Storage Technology : Key IP trends and practices**

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# Agenda

- ❑ Patentability Requirements
- ❑ Storage Technology HW & SW patents
- ❑ Storage Technology 2018 patent trends
- ❑ IP Practices of Industry Leading Storage Technology Companies

# Patentability Requirements

- ❑ Novelty (35 USC 102)
  - ❑ invention must be **new**.
- ❑ Non-Obviousness (35 USC 103) – invention
  - ❑ Invention cannot be considered **obvious** in light of prior art by person of ordinary skill in the art.
- ❑ Patentable Subject Matter (35 USC 101)
  - ❑ Invention must be a new and useful **process, machine, manufacture, or composition of matter**, or any new and useful improvement thereof.



# Patentability Requirements

US patent law	Foreign patent law
First to file	First to file
Publication – 12 month bar	Publication – not patentable
No annuity or Request for Exam	Annuities, Request for Exam
Hardware and Software	Hardware and Software

# Patentability Requirements

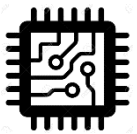
Factors for Patenting	Factors for Trade Secret
Novel, non-obvious, patentable SM	Does not meet all requirements
Infringement reasonably detectable	Infringement not detectable
Tech useful during patent term	Tech will expire before or outlast patent term
Publishing technology acceptable	Secrecy of technology is required

# Storage Technology Hardware Patents

- ❑ What hardware should storage technology companies consider patenting?

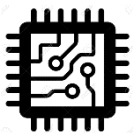
# Storage Technology Hardware Patents

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  - ❑ Components, chips, systems, processes that meet the patentability requirements



# Storage Technology Hardware Patents

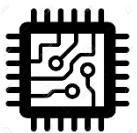
- ❑ What hardware should storage technology companies consider patenting?
  - ❑ Components, chips, systems, processes that meet the patentability requirements
  - ❑ HW that is valuable to company and a competitor may sell





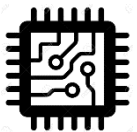
# Storage Technology Hardware Patents

- ❑ What hardware should storage technology companies consider patenting?
  - ❑ Components, chips, systems, processes that meet the patentability requirements
  - ❑ HW that is valuable to company and a competitor or may sell
  - ❑ HW that an unlicensed/disgruntled manufacturer might make



# Storage Technology Hardware Patents

- ❑ What hardware should storage technology companies consider patenting?
  - ❑ Technology to cover a litigious competitor's product  
-for cross licensing and settlement purposes



# Storage Technology Software Patents

- ❑ What software should storage technology companies consider patenting?
  - ❑ Local or distributed software that meets patentability requirements
  - ❑ SW that is valuable to company and a competitor may sell

# Storage Technology Software Patents

- ❑ What software should storage technology companies consider patenting?
  - ❑ Local or distributed software that meets patentability requirements
  - ❑ SW that is valuable to company and a competitor may sell
- ❑ Examples
  - ❑ Software defined storage, Data center AI, Virtual server environments
  - ❑ Automated tiered storage, hyper-convergence

# Storage Technology Software Patents

- ❑ Software patents – patentable subject matter
- ❑ Alice Corp. V. CLS Bank Int'l
  - ❑ Supreme Court case that addressed the patentability of software
  - ❑ Involved a computer implemented, electronic escrow service for facilitating and reducing risk in financial transactions.
  - ❑ Received lots of media attention – “software isn’t patentable!!”

# Storage Technology Software Patents

## □ Alice Corp. V. CLS Bank Int'l two part test:

- (1) Determine whether claims at issue are directed towards one of judicial exceptions (e.g., are the claims directed to “abstract idea”).
- (2) If so, determine if any additional claim elements transform the nature of the claim into a patent-eligible application

Does claim include an element or combination of elements that is “sufficient to ensure that the patent in practice amounts to **significantly more** than a patent on the ineligible concept itself.”

# Storage Technology Software Patents

- ❑ USPTO examples of abstract ideas (are not subject matter eligible)

## Human Activities done by computer

Playing a game played by hand (bingo)

Meal planning for a diet plan

## Mathematical formula

Mathematically organizing information

Formula for standing wave phenomena

Mathematical procedure for conversions

## Well known economic and financial practices

Electronic escrow service

Hedging

Providing advertisements before desired content

Clearing house

# Storage Technology Software Patents

- ❑ Software patent claims found not patentable:
  - ❑ Smart Systems Innovations LLC v. Chicago Transit Authority
  - ❑ The Court held that the claims merely involved the "collection, storage, and recognition of data," and did not improve an existing technological process



# Storage Technology Software Patents

- Cases in which software patents were directed to patentable subject matter:

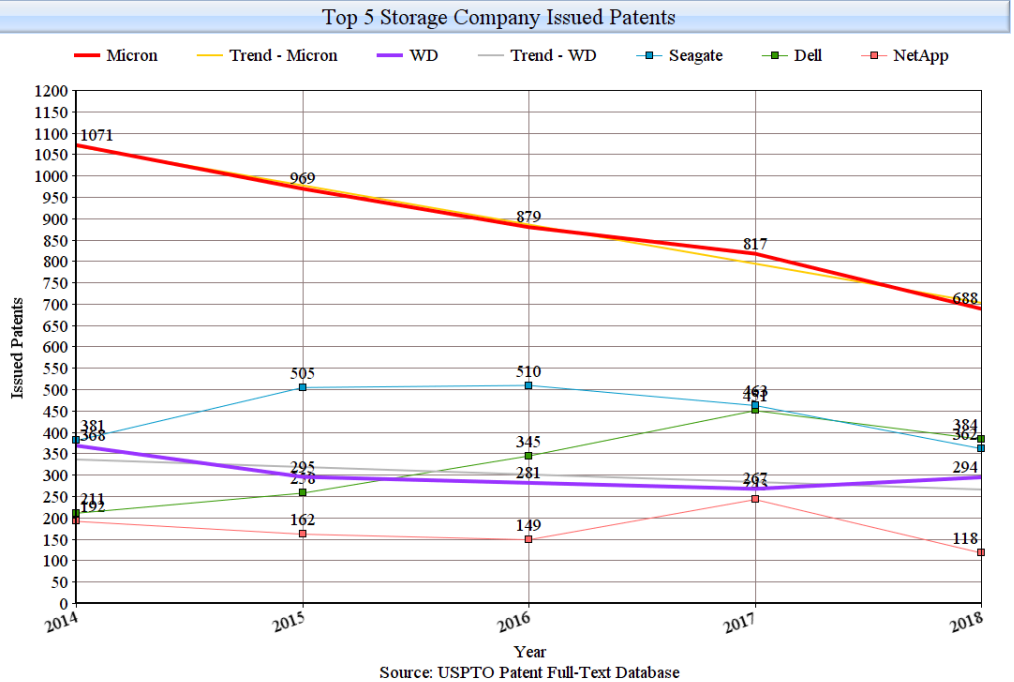
<b>DDR Holdings v. Hotels.com</b>	Rooted in computer technology to overcome a challenge particular to the computer technology.
<b>Enfish, LLC v. Microsoft, Inc.</b>	Specific asserted improvement of computer functionality or operation.
<b>Global Internet v. AT&amp;T Mobility LLC</b>	Non-conventional steps or arrangement of known pieces that confine claim to useful application.
<b>McRo v. Bondai Namco Games America</b>	Automated process differs from prior process and improves the technology.

# Storage Technology Software Patents

## ❑ Software patent tips

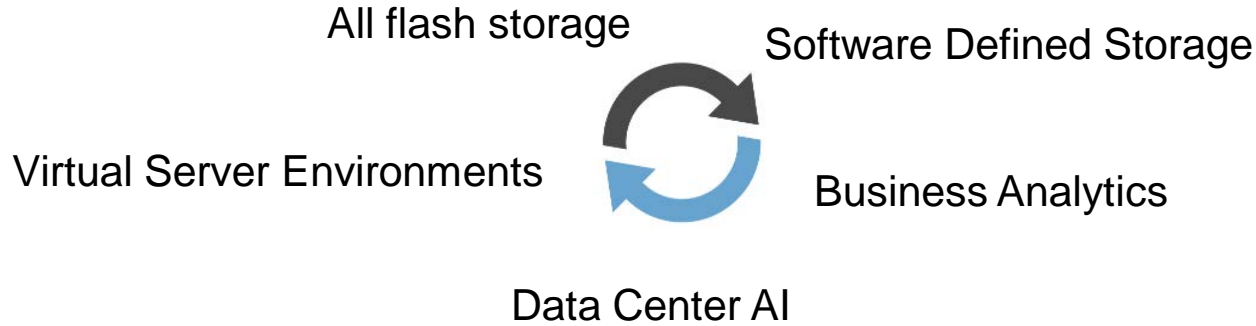
- ❑ Draft patent applications to include as much technical detail as possible
  - ❑ Data flow, software architecture, interaction with hardware, description of technical problem and how the technical problem is solved (e.g., faster memory, more reliable memory)
- ❑ Draft claims to reference code modules, data flow, and interaction with hardware
- ❑ Application and claims should relate to computer technology
  - ❑ e.g., data storage for computers

# Storage Technology Patent Trends



# Storage Technology Patent Trends

- Storage technology – trends in patent protection

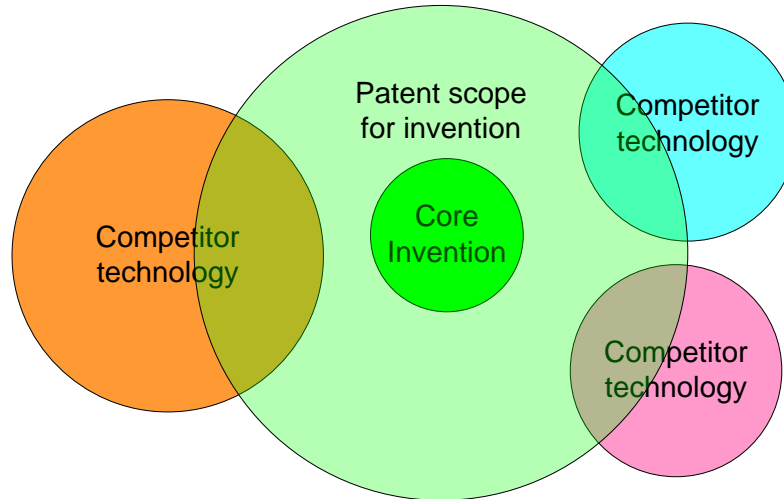


# IP Practices of Top Storage Tech Companies



# IP Practices of Top Storage Tech Companies

- Keep patent applications as broad as possible



# IP Practices of Top Storage Tech Companies

- Focus on software that meets allowable subject matter requirements

<b>DDR Holdings v. Hotels.com</b>	Rooted in computer technology to overcome a challenge particular to the computer technology.
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# IP Practices of Top Storage Tech Companies

❑ Interview the USPTO examiner handling the case

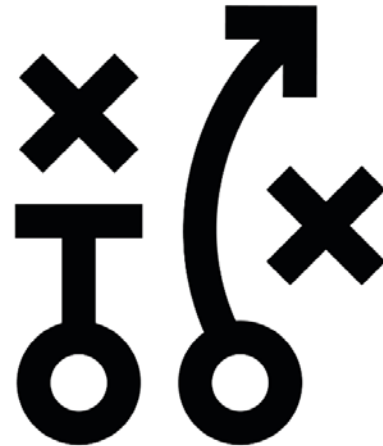
- ❑ Educate
- ❑ Negotiate
- ❑ Personalize





# IP Practices of Top Storage Tech Companies

- ❑ Develop an IP Portfolio plan
  - ❑ Offensive or Defensive?
  - ❑ Types of IP
  - ❑ Budget
  - ❑ Timeline
  - ❑ Goals
  - ❑ Company Awareness



# IP Practices of Top Storage Tech Companies

## ❑ Public Disclosures - avoid them!

- ❑ US - triggers 12 month, but First to File!
- ❑ Lose patent rights in foreign countries.



# IP Practices of Top Storage Tech Companies

- ❑ Open Source – know OS requirements and your use of OS software
  - ❑ Can require source code to be made public.
  - ❑ Implement a plan for managing types and use.



# IP Practices of Top Storage Tech Companies

## □ Do it right the first time



- Can be difficult or impossible to add new content later.
- Put in the time, money, and resources to do it properly.
- “Doing it right the first time is a lot easier (and cheaper) than having to go back and fix it.” – Steve Jobs

# Questions



**The End**

**Thank You**

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