

Data Tape Migration

Who, What, When,
Where and Why



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**Presented by
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Ovation Data Services, Inc.**



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Introduction

- **About the Speaker**
- **In the Spirit of the current Season ...**
- **Occasional Polling of the Audience**



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Audience Poll – Who is ...

- **Currently using tape?**
- **Currently using more than one tape technology?**
- **Think information is valuable?**
 - Past and Present
- **Keeping media from the past?**
- **Performed a media migration before?**
- **Currently have budget?**



Preface

For Both Tape and Disk

We'll look at some of the key –

- Issues and Problems
- The Benefits
- The Ways to Manage your ...

**Assets / Information and
Prepare for the Inevitable
Media Migration**



5 W's of MIGRATION

- Who
- What
- When*
- Where
- Why*



5 W's of MIGRATION

- Who
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WHO

WHO NEEDS TO MIGRATE ...

- Everyone in the Company?
- Just Select Departments?
- Only I.T. Department?
- ???



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WHO

- **Everyone does, Eventually**
- **Then why are we keeping Backups / Archive**
- **At some Point the ...**
 - What, When, Where & Why
- **Answers are probably Different for each individual**

WHO

KEY ISSUES & PROBLEMS

- **Decide the What?**
- **Identify within a Organization**
- **No One is in Charge**



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WHO

BENEFITS

- Different for each ...
- Identify early, Can Now PLAN for the Future

WAYS TO MANAGE ...

- Appoint a Team or
- Data Steward



5 W's of MIGRATION

- Who
- **What**
- When*
- Where
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WHAT

WHAT NEEDS TO BE MIGRATED?

- This is always the \$64K Question
- What is Important...
 - Historical...
 - Legal...



WHAT

- Need to identify NOW, so you can PLAN for the future
- Like Departments go to specific Locations
- Archive, Historical Footage, or Others



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WHAT

KEY ISSUES & PROBLEMS

- Identifying what is Important ...
 - Mission Critical ...
 - Valuable ...
 - Asset ...
- Migrate everything?
- Data format conversion?



WHAT

BENEFITS

- Organize base on LifeSpan of Information to keep
- Organize helps keep “Like” items together

WAYS TO MANAGE ...

- Keep on Same type of Media & Vols
- Plan to be Selective



5 W's of MIGRATION

- Who
- What
- **When***
- Where
- Why*



WHEN*

WHEN DO WE MIGRATE?....

- Technology Trends
- Technical Obsolescence
- Scheduled Plan
- Following are Just a few Key Points of discussion

WHEN

NUMBER OF MEDIA FORMATS

Introduced the Past Six Decades

- 50's ... 7
- 60's ... 6
- 70's ... 7
- 80's ... 31
- 90's ... 106
- 00's ... 74



WHEN

HISTORICAL TRENDS

- **77 different Media Technologies**
- **230+ different Media Formats since 1956**
- **Only 17% Devices still Available**
 - Only One Tape Older than 7 Years
- **58% Media still Available**



WHEN

LIFESPAN OF TECHNOLOGIES

Introduced the Past Five Decades
(Average of all discontinued that decade)

- 60's ... 37 max / 25 avg
- 70's ... 28 max / 15 avg
- 80's ... 18 max / 8.5 avg
- 90's ... 14 max / 5.2 avg
- 00's ... 9 max / 4.2 avg

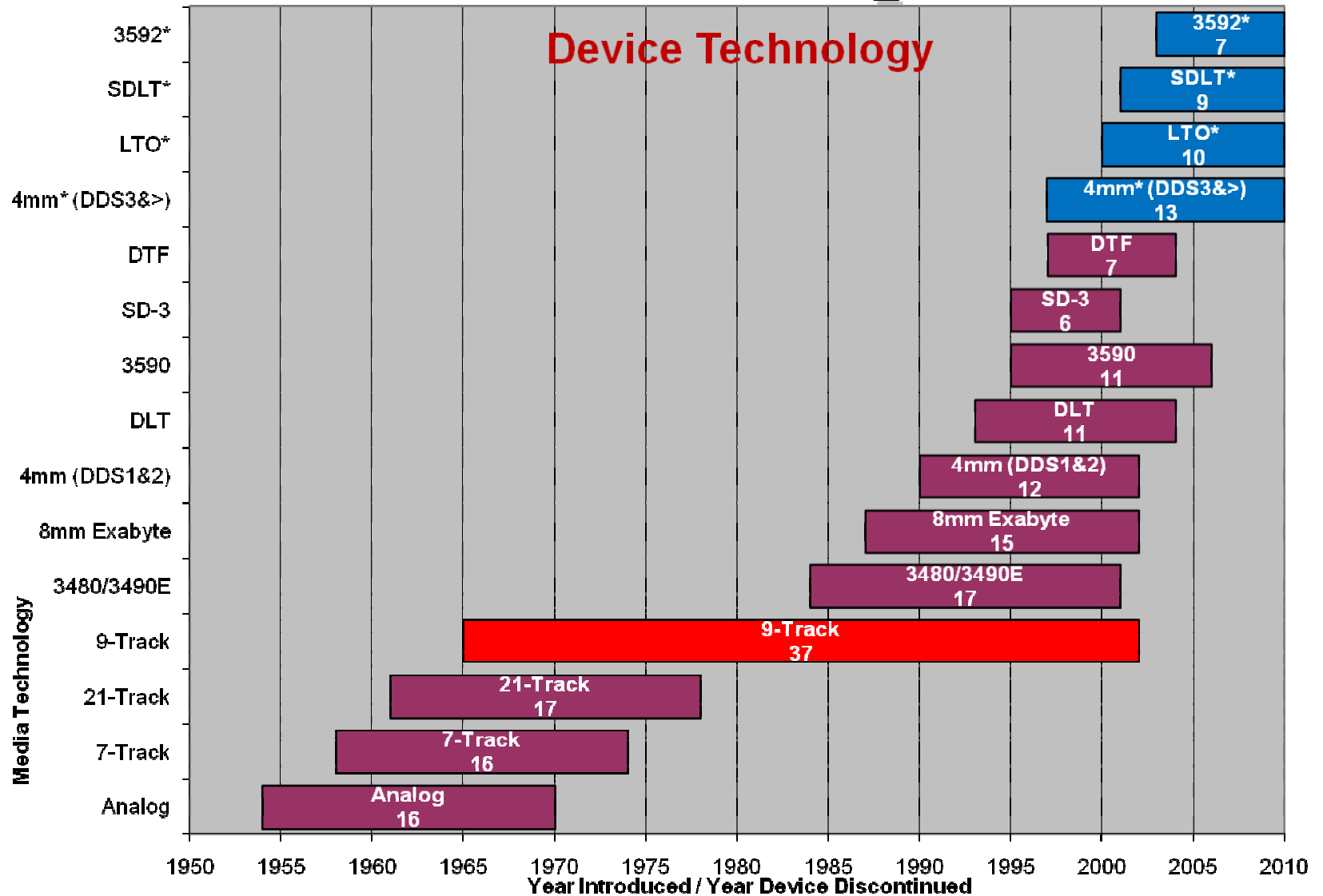


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WHEN – LifeSpan



WHEN

BACKWARD READ Compatible

- Today most Read Back TWO (2) Generations

AUDIENCE POLL

- How many have LTO-1 Media?
- How many drives do you have that read LTO-1 Media?



WHEN...

... ON NEW GENERATION RELEASE

- **Generation Skipping**
- **Avg. 5-6 year rolling window**
- **Backward read compatible**



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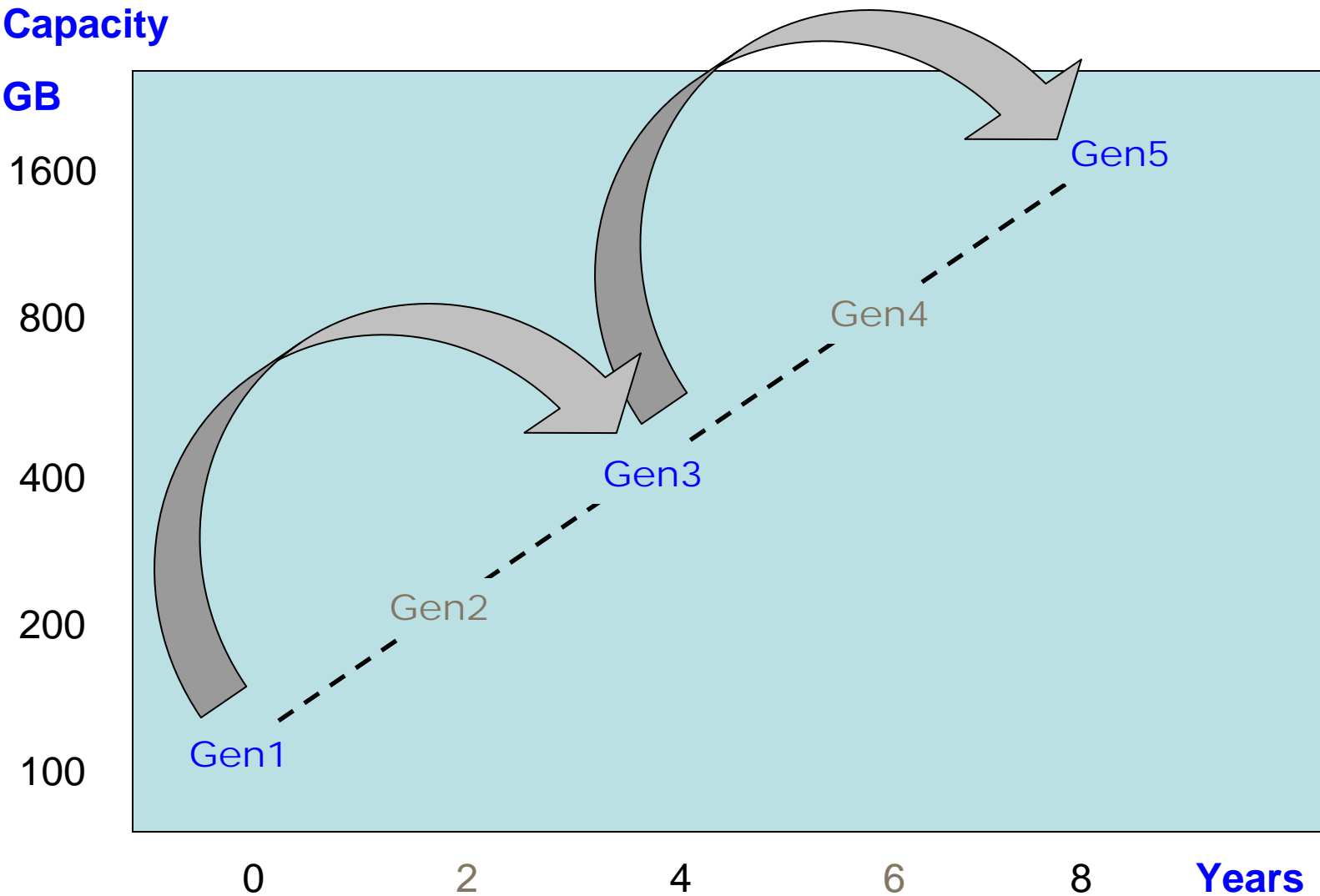
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WHEN -Generations Skipping

Capacity

GB



WHEN - Generation Compatibility

Capacity

GB

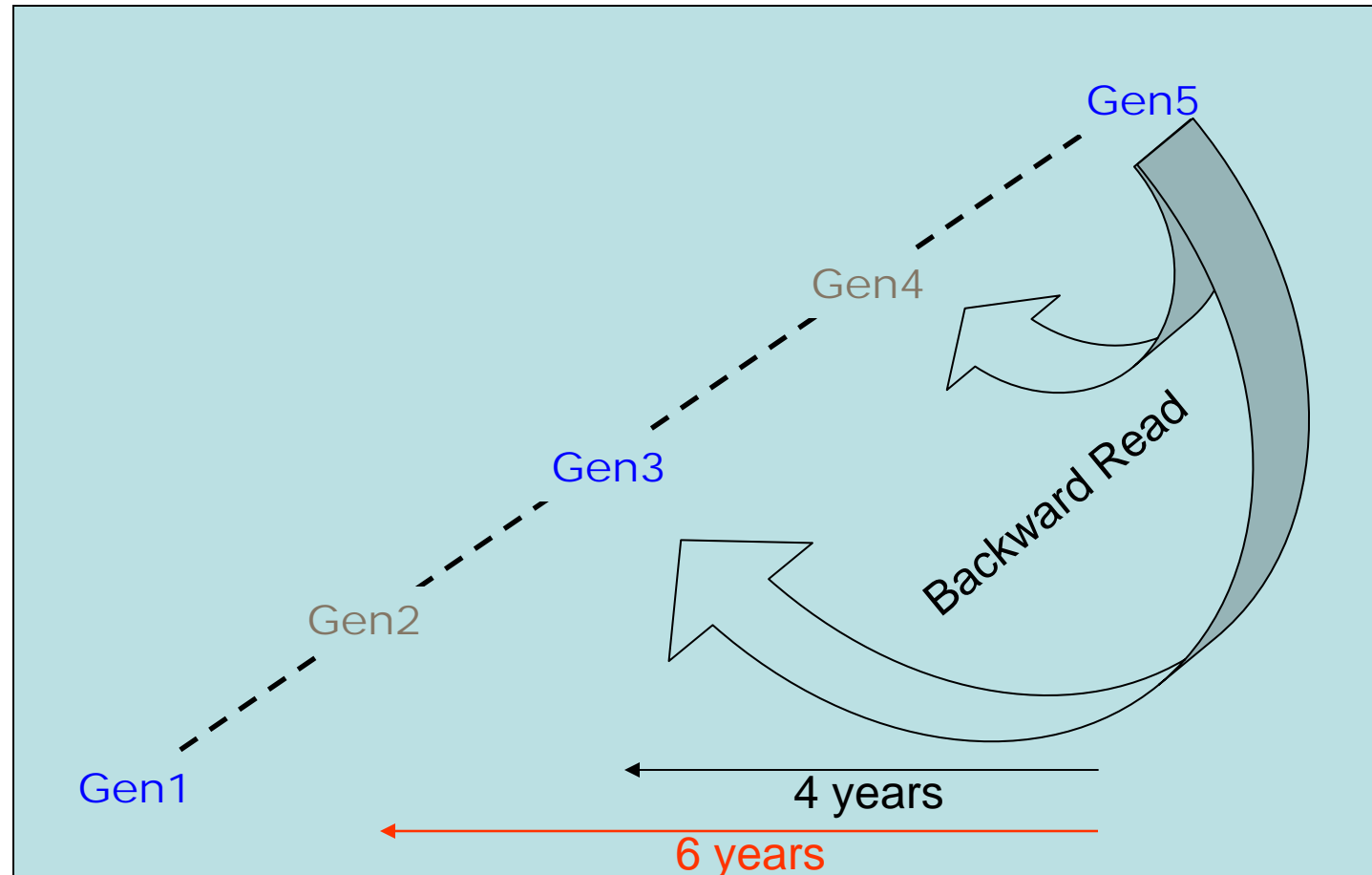
1600

800

400

200

100



0

2

4

6

8

Years

4 years

6 years

Backward Read



WHEN...

... ON NEW TECHNOLOGY UPDATE

- Technology will Change
- Average Technology LifeSpan 10~16 years



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WHEN...

... ON OBSOLESCENCE

- Discontinuation of a Technology

AUDIENCE POLL

- SCSI Disks Anyone?
- PCI bus?
- SCSI Connections?
- Using DLT Media?



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WHEN

ISSUES & PROBLEMS

- Technology is going to change
- LifeSpan is getting Shorter – Making it harder to Long Term Plan
- Choices
- Backward Read Ability



WHEN

BENEFITS

- **Spot Trends Early**
 - Keep Eyes and Ears Open
- **No longer concerned with just the Age of the Tape**
- **Shorter Refresh Period**



WHEN

WAYS TO MANAGE ...

- PLAN, PLAN, PLAN
- It is Going to Happen!
- Media to Media every 5 Years
 - Mainly to Backward Readability
- Technology Refresh every 10~14 years
 - Look at past Historical Trends

5 W's of MIGRATION

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- When*
- **Where**
- Why*



WHERE

WHERE DO WE MIGRATE TO?

- What does the Crystal Ball Say?



WHERE

**FROM WHAT WE SEE TODAY,
IT WILL BE SOMETHING...**

- **I do know, it will have to be something**
- **Start Monitoring Today**
 - USB 3.0 is now out
- **Use Combo – Tape, Disk, other...**



WHERE

FROM A MIGRATION PLANNING ...

- **Do not worry, until it gets close**
 - Say 1-2 years out
- **Look for Proven Technology and Foreseeable Generation path**
- **Multi-Copy / Multi-Technology**



WHERE

ISSUES & PROBLEMS

- Too many Choices
- Choosing too early
- Moving Target



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WHERE

BENEFITS

- Planning Today makes decision easier in the Future
- No Shock value by Planning
- No Postponement waiting on Budget



WHERE

WAYS TO MANAGE ... Migration

- **Keep Track of Technologies**
- **Be Ready to Change**
- **Ask for Budget TODAY!**



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5 W's of MIGRATION

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WHY

WHY MIGRATE (Conclusion)

- Reduce Risk
- Preserve Historical Assets
- Because we have to?
- Why Tape over Disk?



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WHY

WHY TAPE OVER DISK

- Use Both jointly
- Long Term – Tape is best
- Is Tape Greener?

AUDIENCE POLL (second to last)

- In What Year do Most Hard Disks Fail?



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WHY

REVIEW OF PREVIOUS 4 W's

- **Because 17% Devices Available**
- **Because 58% Media Available**
- **Technology LifeSpan**
- **Obsolescence**
- **Need Data Steward**
- **Take Ownership**



WHY

REVIEW OF PREVIOUS 4 W's

- Why keep if not worth anything
- Why keep if not planning to migrate
- Determine What should be Migrated
- PLAN & BUDGET



WHY

FINAL AUDIENCE POLL

- Who now believes they will be doing a Media Migration in the next 5~7 years?



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