

OSTA DVD Compatibility Panel

**Early morning,
October 19, 2004**

OSTA DVD Compatibility Panel

Speakers:

- **Tony Jasionowski**
 - Recordable DVD Council (-RAM)
 - **Andy Parsons**
 - RW Products Promotion Initiative (-R/-RW)
 - **Ted Matsui**
 - DVD+RW Compatibility and Convergence Group (+R/+RW)
 - **Subutai Ahmad**
 - OSTA DVD Compatibility Committee
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OSTA DVD Compatibility Committee

OSS

October 19th, 2004

What is the “OSTA DVD Compatibility Committee?”

- **A joint effort by 3 organizations:**
 - **OSTA (Optical Storage Technology Association)**
 - **NIST (Natl. Inst. of Standards & Technology – US Chamber of Commerce)**
 - **DVDA (International DVD Association)**
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Committee Goals

- **The OSTA DVD Compatibility committee**
 - **Is format and vendor neutral**
 - **Writes and publishes test plans**
 - **Chooses products based on market data**
 - **Publishes anonymous results**
 - **Provides general guidelines for consumers**
 - **Provides detailed technical results to OSTA members (media and drive manufacturers)**
 - **We test compatibility from a consumer and market standpoint**
 - **We do not test specifications or standards compliance**
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Core Committee Members

- **Subutai Ahmad (YesVideo, Committee Chair)**
- **Oliver Slattery, Fred Byers (NIST)**
- **Bob Zollo & Lee Prewitt (Software Architects)**
- **Jim Taylor (Sonic Solutions, Chairman DVDA)**
- **Dave Bunzel (Santa Clara Consulting, President OSTA)**

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- **Active input from OSTA member companies (media and drive manufacturers)**
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Test Roadmap

- **Phase 1 (2002 – 2003):**
 - Created objective test plans
 - Assess compatibility of 1X media and DVD-ROM drives
 - **Phase 2 (2003-2004):**
 - Tested DVD burners, ROM drives and 4X media
 - **Phase 3 (2004):**
 - Testing 8X media
 - **Phase 4, 5 (2005):**
 - Will test DVD Recorders, dual layer discs
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Product selection

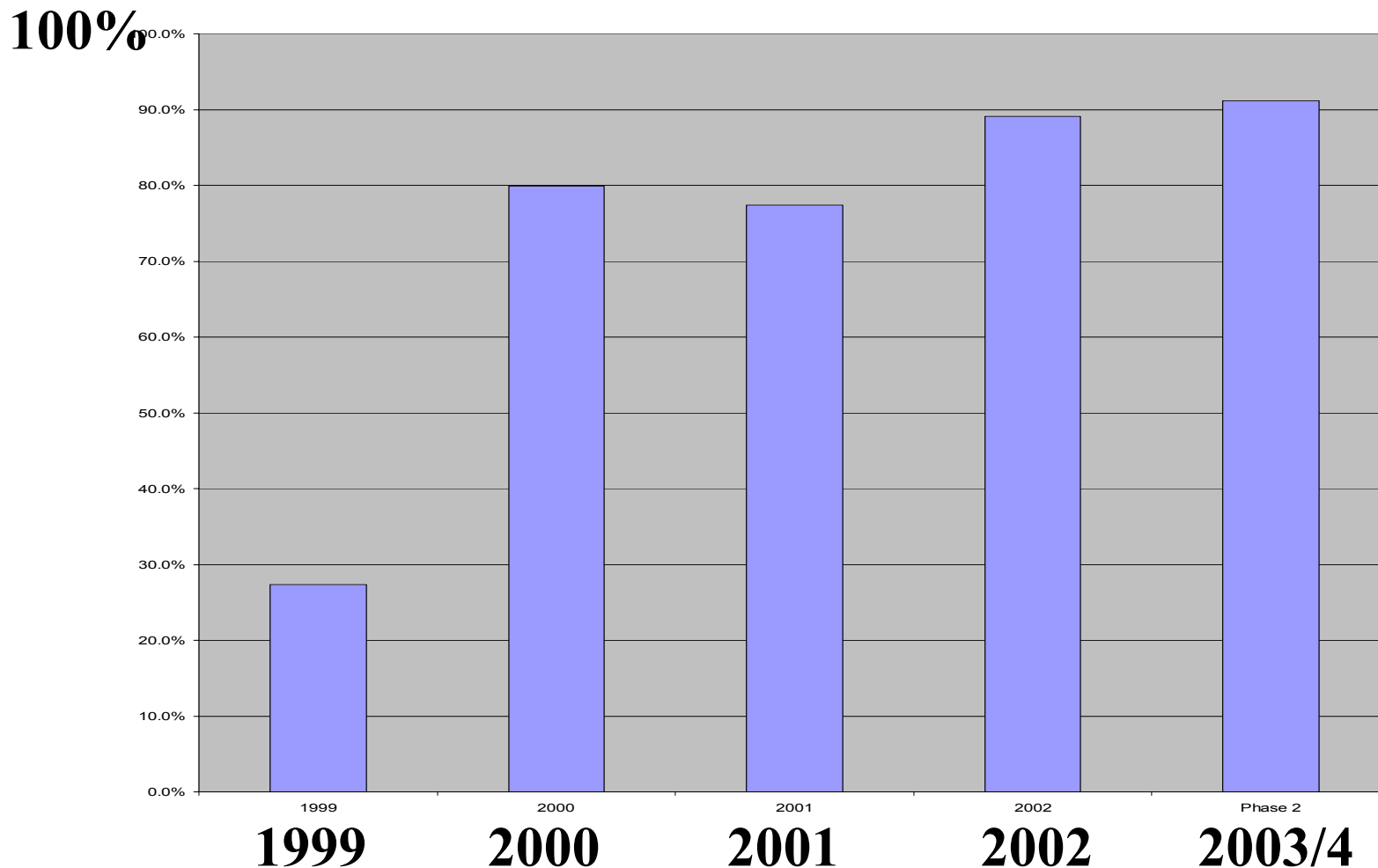
- **Key goal is to provide a snapshot of the US market**
 - **Select media and drives based on US market share data**
 - **DVD-ROM drives represent 60% market share manufactured during 2000-2003**
 - **Burners represent 75% of US market share as of end 2003**
 - **Media brands represent 65% (-R) and 85% (+R) market share**
 - **Thanks to Santa Clara Consulting Group and Fujiwara-Rothschild for market data**
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Test Methodology

- **Record discs using a master ROM-disc as source**
 - Disc image uses over 97% of the disc capacity
 - All discs recorded at max speed, with verify on
 - Phase 1 used 1X discs, Phase 2 used 4X discs
 - **DVD-ROM playback test**
 - Install each drive in test PC
 - Compare data in recorded disc against control ROM disc
 - “Pass” requires 100% score on a byte to byte comparison basis against control disc
 - Check 1% of the data spread out across disc
 - **Test plan published by NIST**
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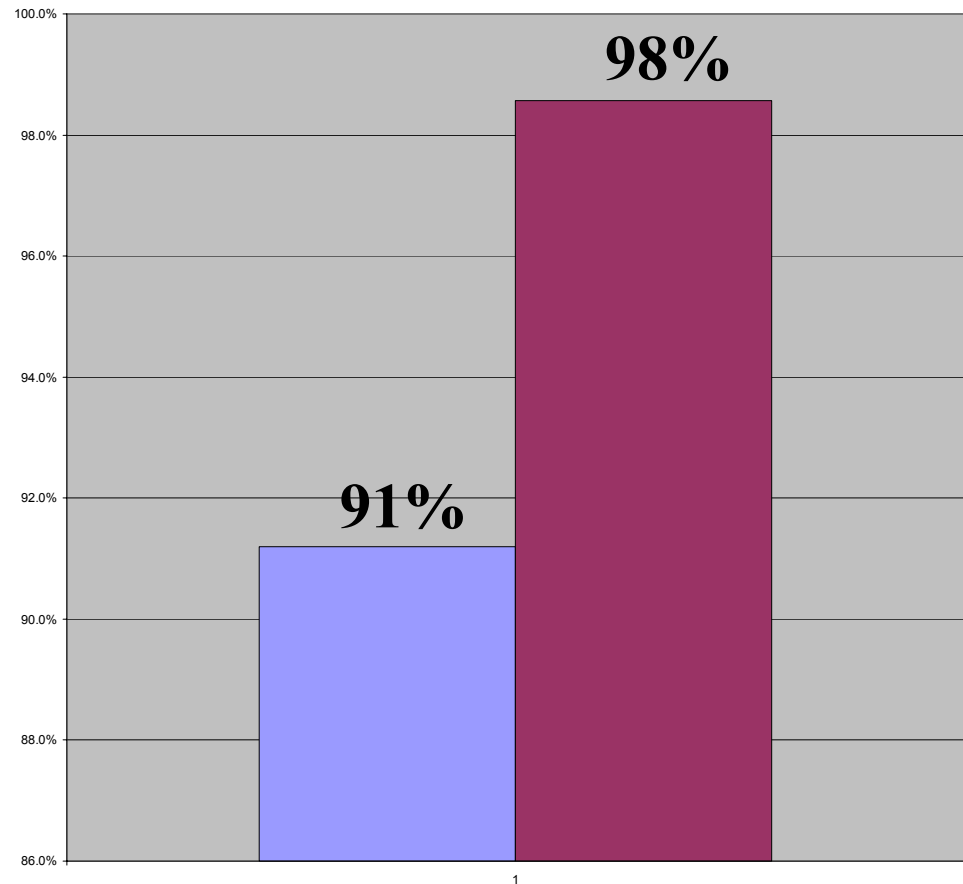
Highlights of Test Results

Compatibility has improved



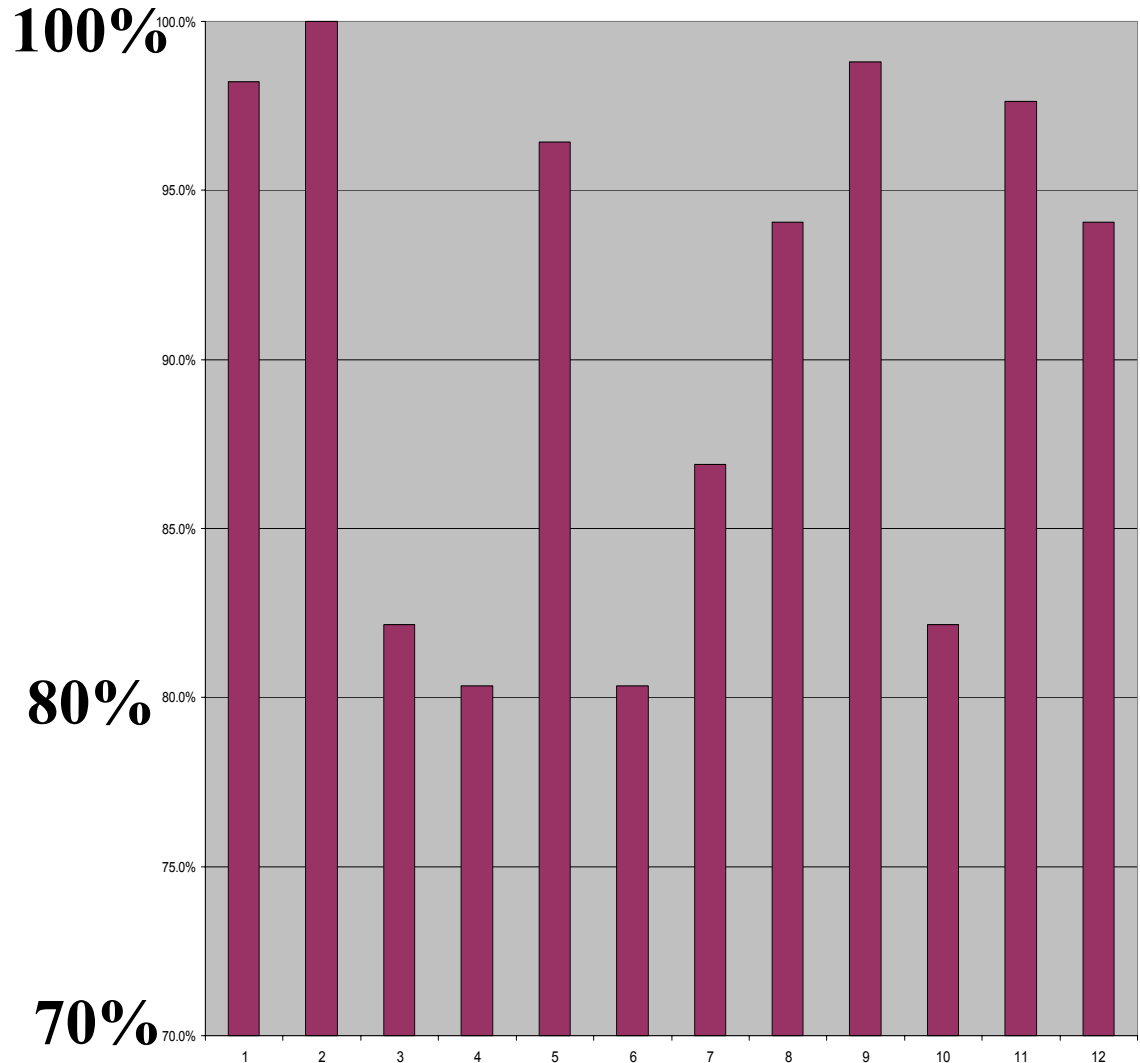
Edge Effect

- **Edge effect clearly seen**
- **In Phase 2, 38 out of 50 failures were in the outer edge of the disc**
- **“Edge” begins to appear around 10% from end of the disc and becomes significant around 5% from the end**
- **Ignoring errors outside the edge, compatibility rises to 98%**



Media Quality

- There is a significant spread in media quality
- Worst media brand scored 80.5%
- Best media brand scored 100%



RAM results

- **Phase 1 tested RAM compatibility**
- **RAM results**
 - **Several drives did not support RAM (red F or NA)**
 - **Those that did claim support tested well**

DVD-RAM														
148	F	F	NA	P+	NA	NA	NA	P+	P+	F	F	F	P+	P+
149	F	F	NA	F	NA	NA	NA	P+	P+	F	F	F	P+	P+
150	F	F	NA	P-	NA	NA	NA	P+	P+	F	F	F	P+	P+
151	F	F	NA	P+	NA	NA	NA	P+	P+	F	F	F	P+	P+
152	F	F	NA	F	NA	NA	NA	P+	P+	F	F	F	P+	P+

Other observations

- **No significant difference between formats**
 - **-R vs +R, or R vs RW**
 - **Media quality and edge effect are bigger factors**
 - **Burning was reliable**
 - **Only 1 disc failed to verify**
 - **Write times consistent with rated speed**
 - **Avg 15 minutes to burn 4.6GB on 4X drives**
 - **Independent test validation was consistent**
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Conclusions

- **Overall results improving over time**
 - **Edge effect in failures is very clear**
 - **When recording, avoid filling up the disc for best compatibility**
 - **Media quality matters:**
 - **Significant variation in media quality**
 - **Media-Burner combinations matter**
 - **Consumer should update firmware on burners**
 - **Underscores importance in media/drive mfr relations**
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