

AMERICAN NATIONAL STANDARDS INSTITUTE
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**An empirical analysis of *ex ante*
licensing disclosures**

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NIST-Funded 2010-11 Empirical Study of *Ex Ante* Policies

■ Goals:

- To examine quantitative effect of *ex ante* policy implementation at VITA/IEEE 5 years later
- To quantitatively test pro and con predictions regarding effects of *ex ante* policies
- To assess user experience with *ex ante* policies



Study Parameters

- Sample set: VITA, IEEE, IETF
- Time period: 2003/4-2011
- Data collection:
 - Historical
 - Survey
 - Interview



Theories of Interest relating to Ex Ante Policies

Theories that *Ex ante* policies will:

1. reduce standardization activity
2. cause standards to take longer to develop
3. require more time from standards developers
4. cause members to withdraw
5. cause standards to decrease in quality
6. depress patent royalty rates



Historical Data Collection

- From 2003/4-2010:
 - Number of standards started and approved
 - Mean time to approval
 - SDO/WG membership
 - Impact (citation)
- Ex ante royalty disclosures



Survey Instrument - VITA

- Demographics
 - Sector (vendor/customer/regulator)
 - Patent experience
 - SDO experience
- Perceptions and Experience
 - This SDO compared to other SDOs
 - This SDO today compared to pre-ex ante
 - Reactions to royalty disclosures
 - Reactions to policy adoption
- Response: 53% (n=47, N=88)



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SDO IPR Disclosures

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Comparison of SDO Disclosure Patterns (2007-2010)

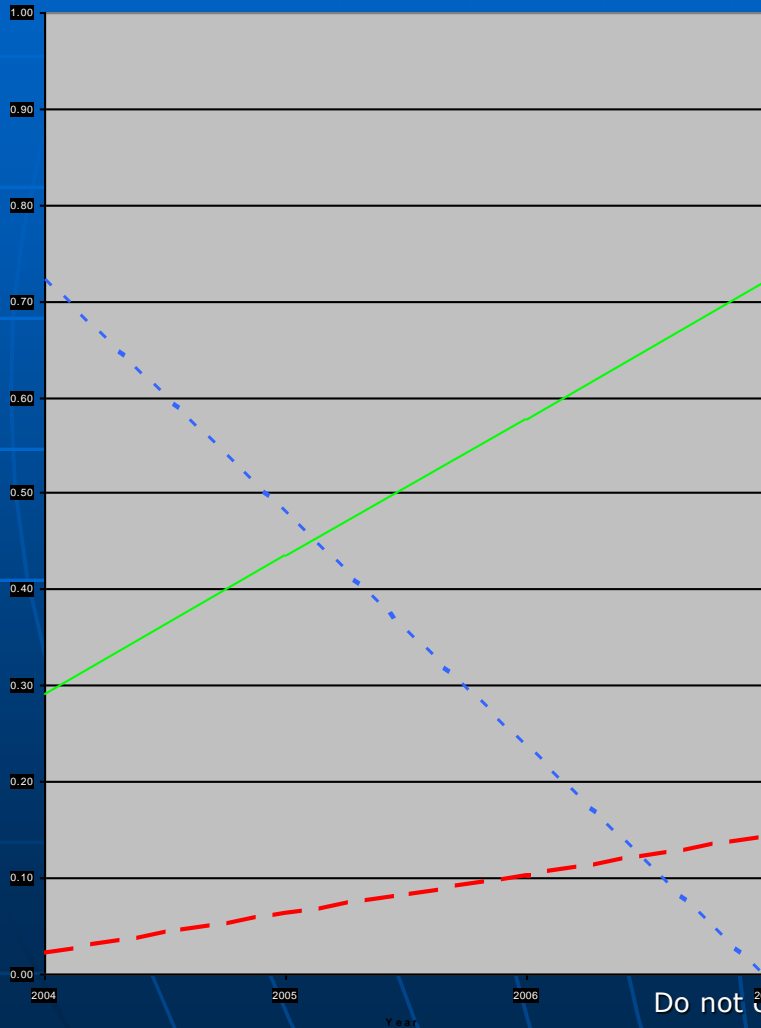
	VITA	IEEE	IETF
Standards Approved	18	333	1,243
Total Patent Disclosures	7	349	481
Standards Covered by Disclosures	7	103	607
Ratio of Standards Covered by Patent Disclosures : Approved Standards	1 : 2.6	1 : 3.2	1 : 2.0
Non-Royalty Licensing Term Disclosures	7	33	276
Royalty-Free/Non-Assert (RF) Disclosures	1	11	283
Non-Zero Royalty Disclosures	6	2	0
Total <i>Ex Ante</i> Licensing Disclosures	7	39	366
Ex Ante Licensing Disclosures as % of All Patent Disclosures	100%	11%	76%
Standards Covered by <i>Ex Ante</i> Licensing Disclosures	7	35	386
Ratio of Standards Covered by <i>Ex Ante</i> Licensing Disclosures : Approved Standards	1 : 2.6	1 : 9.5	1 : 3.2

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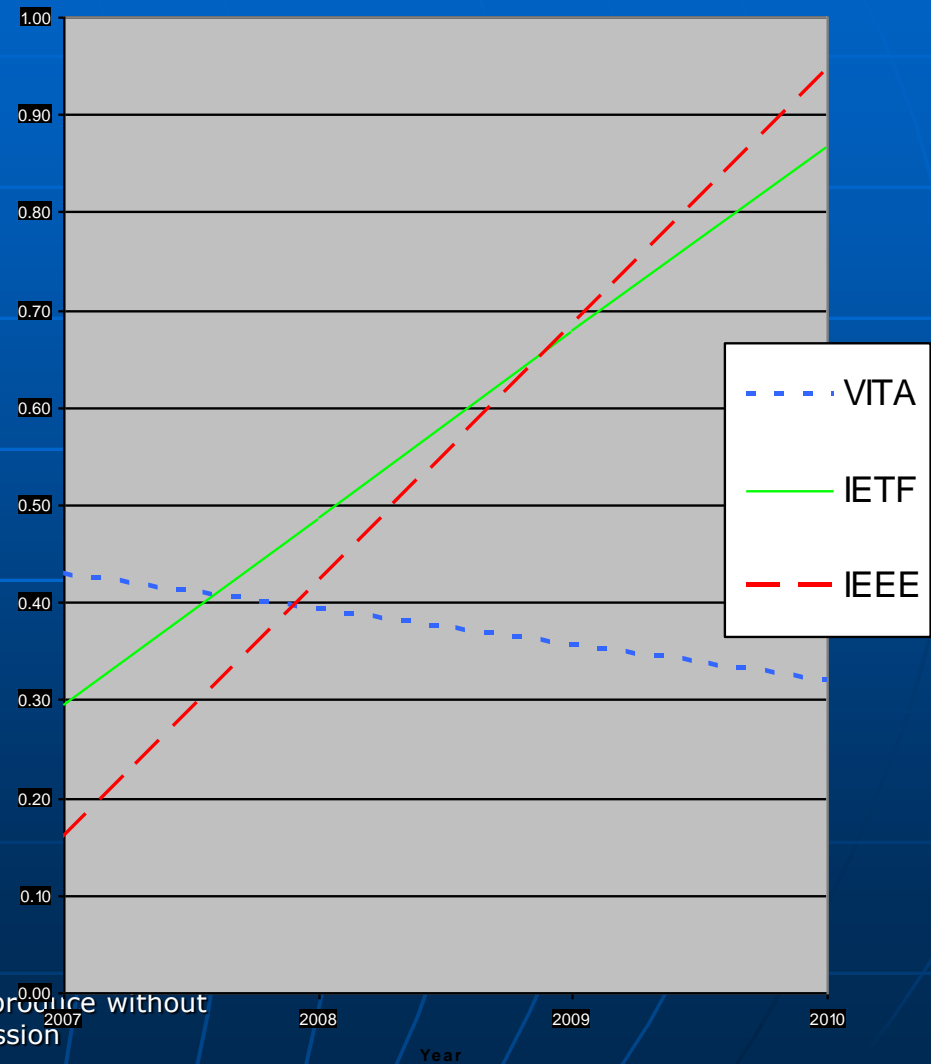
1. Quantity of Standards

Standards Starts by year

2004-07



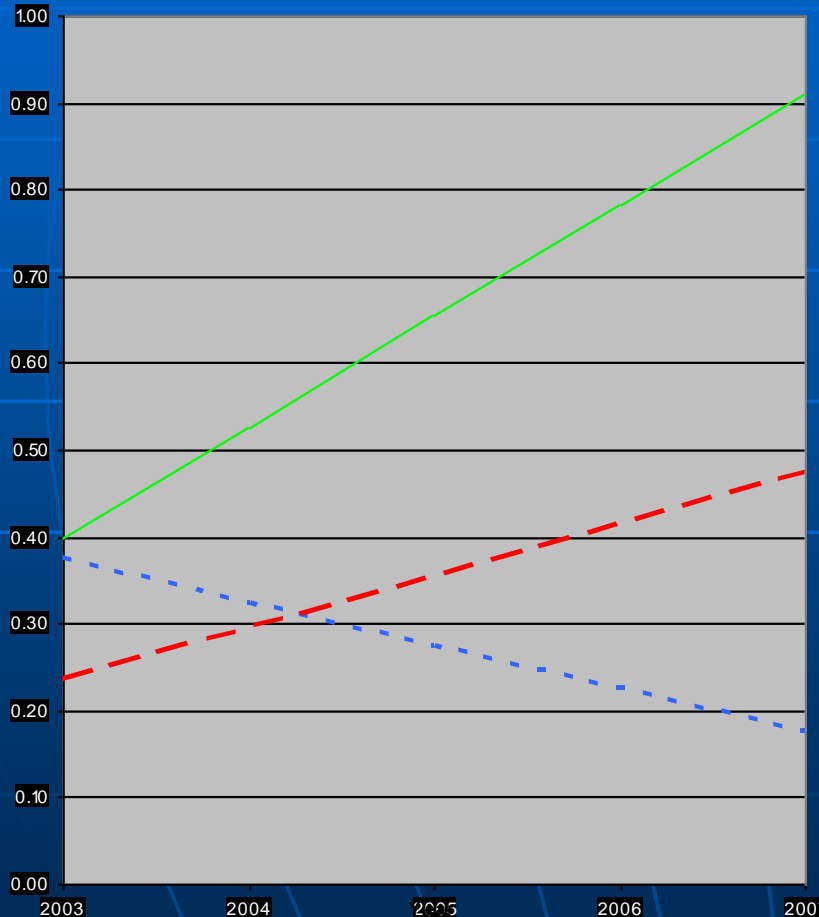
2007-10



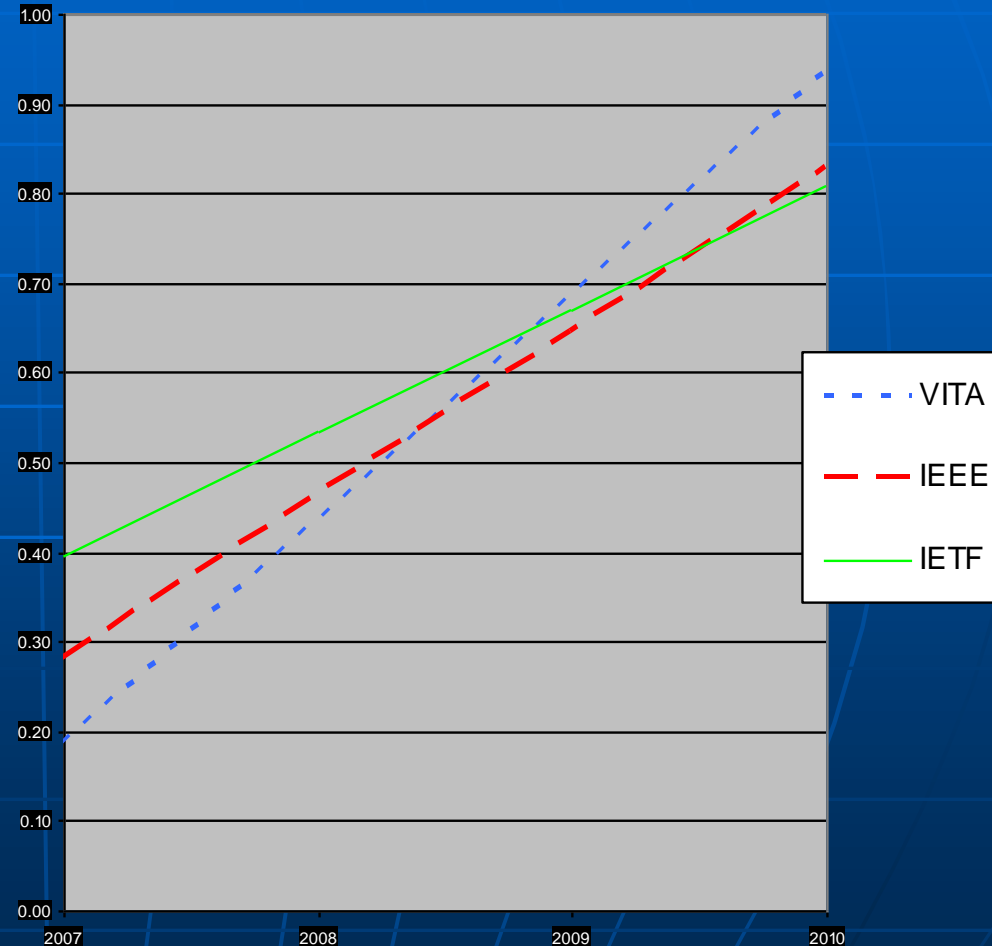
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Standards approved by year

2003-07



2007-10



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Year

2. Standardization Speed

Standardization Speed: Perceptions

Effect of VITA <i>ex ante</i> Policy on Standardization Speed	Compared to VITA pre- <i>ex ante</i> (n=43)	Compared to Other SDOs (n=44)
Faster	18%	20%
No effect	33%	36%
Slower	2%	2%
Don't Know	21%	18%
Lacks Basis for Comparison	26%	23%

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Average Time for Standards Approval ('03-'10)

	VITA	IEEE	IETF
Range (days)	379-1542	1342-1630	694-966
Std. deviation (σ)	371	108	100
Mean ₂₀₀₃₋₀₆	979	1525	786
Mean ₂₀₀₇₋₁₀	1298	1498	935
Slope ($m_{2003-07}$)	33	65	54
Slope ($m_{2007-10}$)	2	-39	8

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3. Personal Time Commitment

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Personal Time Commitment – VITA Perceptions

Time that Respondent spent on VITA standards activities	Compared to VITA pre-ex ante (n=43)	Compared to Other SDOs (n=44)
Less time	12%	7%
No effect	33%	43%
More time	7%	9%
Don't Know	23%	20%
Lacks Basis for Comparison	26%	20%

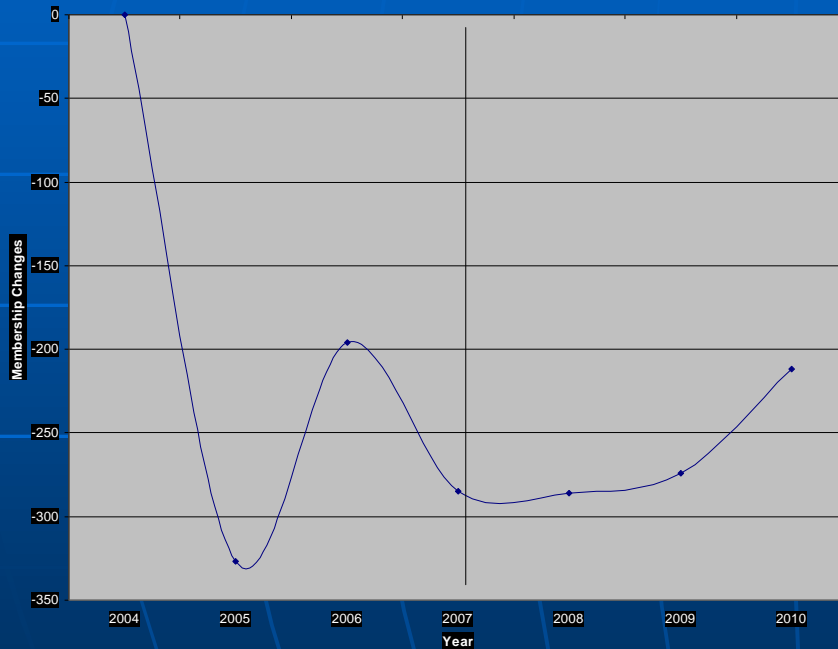
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4. Membership

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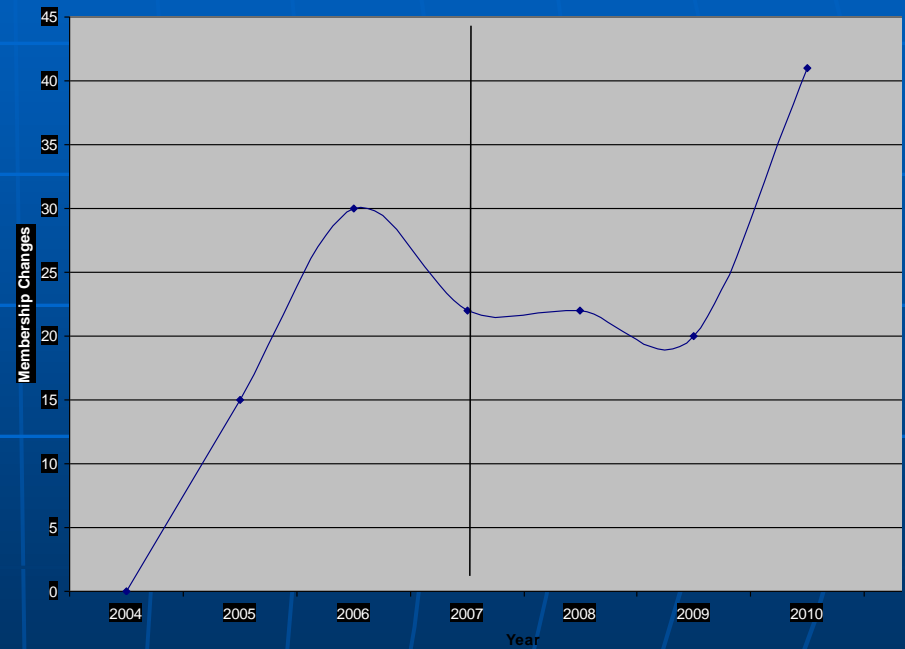
Attendance/Membership Changes IETF and VITA (2004-2010)

IETF Membership Changes by Year



2004 baseline = 1460

VITA Membership Changes by Year



2004 baseline = 127

5. Standards Quality

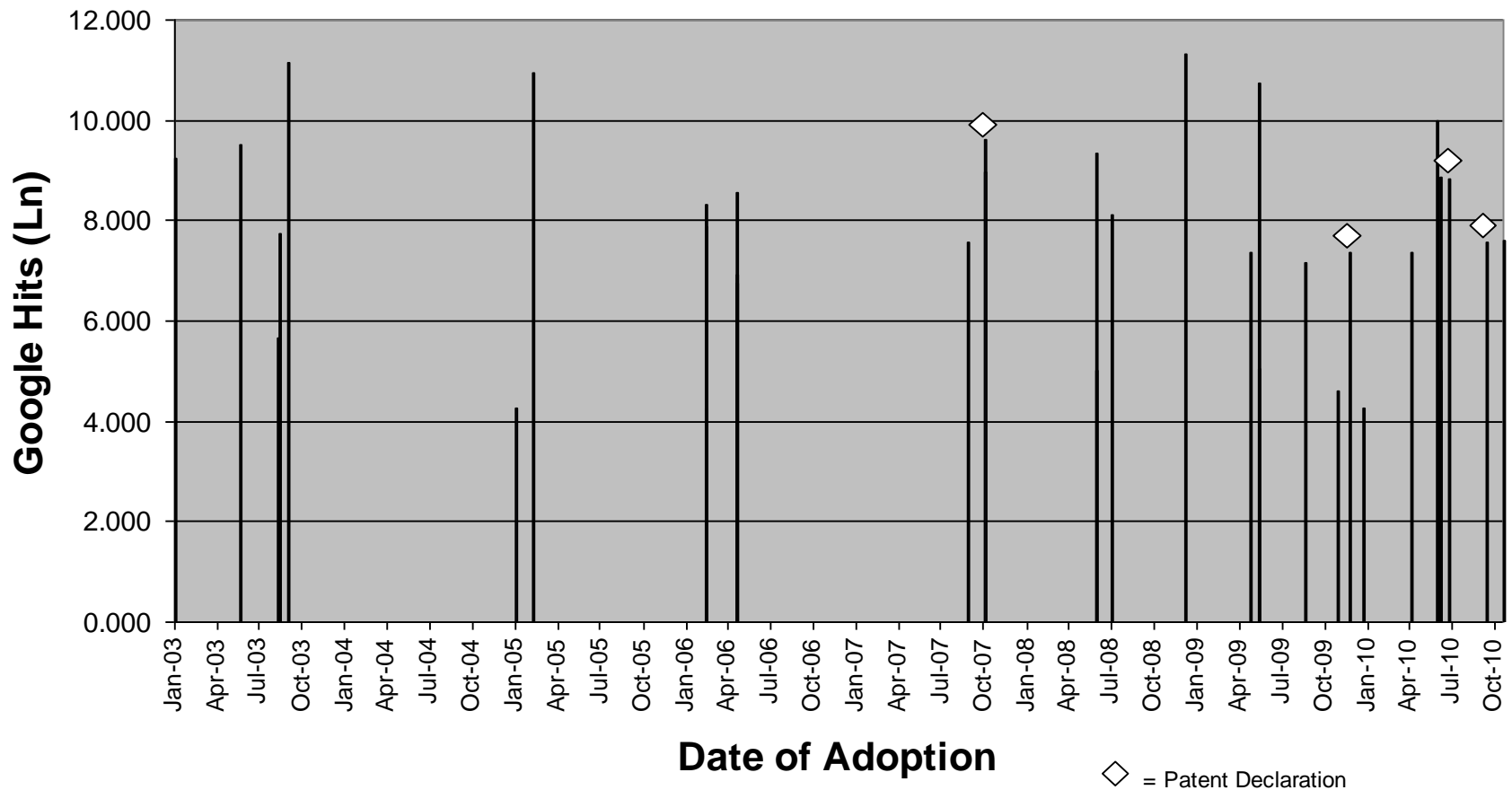
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Measuring “Quality”

- Difficult, imprecise and subjective
- “Triangulation” approach
 - Impact (search engine hits)
 - External recognition
 - Survey perceptions

Citation Data – VITA

Google Hits on VITA Adopted Standards (2003 to 2010)



■ Range = 0-88,000

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VITA Standards Quality – Survey Perceptions

VITA's <i>ex ante</i> makes the quality of VITA standards	Percentage (n=43)
Much Better	53%
Somewhat Better	26%
No Difference	2%
Somewhat Worse	2%
Much Worse	0%
Don't Know	17%

6. Royalty Depression

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Indirect Negative Evidence

- Royalty-Free disclosures
 - VITA: 1 of 7
 - IEEE: 11 of 13
 - IETF: 263 of 263
- VITA Ex Ante amendments
 - Only one (defensive suspension)
 - No royalty rate reductions

VITA Survey Data

- *How important* to you is the royalty rate when considering approval of a proposed standard?

Not important	7%
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Somewhat important	26%
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Very important	57%
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- Have you ever *opposed* adoption of a proposed standard as a result of the royalty rate or other licensing terms disclosed?

No	79%
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Yes	21%
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VITA Responses to Royalties Deemed “Too High”

Response	No.
Raised issue at meeting	3
Attempted to design around patent	2
Delayed/stopped development pending resolution	3
Contacted/negotiated with patent holder	2
Voted against approval of proposed standard	1

Overall Satisfaction

“In your opinion, VITA’s adoption of an ex ante policy has made standards development at VITA:

Much more open and transparent	51%
Somewhat more open and transparent	32%
Neither more nor less open and transparent	17%
Less open and transparent	0%

Conclusions

1. No evidence that mandatory or voluntary ex ante policies have negative effects on SSO processes
2. *Mandatory* ex ante policy at VITA is well-liked by VITA members and seems to be achieving its purpose
3. *Voluntary* ex ante policy at IEEE not having a significant positive or negative impact

Acknowledgements

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Thank You!

- Full report available at:

<http://www.ftc.gov/opp/workshops/standards/nist-report.pdf>

and

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1916743

- Comments and Questions:
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