Cisco
IPv6 Higher Education
Online Survey Report

May 19, 2010

MARKET CONNECTIONS, INC.

Full-Service Marketing Research • Strategic Planning • Process Analysis

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Objectives and Methodology

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- In an effort to uncover the opinions of IT decision makers and influencers in higher education regarding IPv6, 190 online surveys were completed from February – April 2010, following a series of Cisco sponsored IPv6 Higher Education webinars.

- As an incentive to complete the survey, respondents were offered the option to be entered into a drawing for one of three Flip Cameras.

- Respondents were screened to ensure that they were employed by a higher education institution, involved in the implementation of IT and network solutions for their institution, and had some involvement in IPv6 decision making.

Demographics and Classifications

Institution Type

- Respondents from a variety of institution types attended the Cisco IPv6 webinars and responded to the follow-up survey.

- For comparison purposes, institution types were collapsed into two groupings:
  - 4-Year (77%) or 2-Year and Professional schools (23%)
  - Public (63%) or Private and Professional schools (37%)

Institution Type

State or public four-year college or university
44%

Private four-year college or university
33%

Two-year public college
19%

Two-year private college
1%

Professional or trade school
3%

Four- vs. Two-Year Institutions

| 4-Year 77% | 2-Year / Professional 23% |

0% 20% 40% 60% 80% 100%

Public vs. Private Institutions

| Public 63% | Private / Professional 37% |

0% 20% 40% 60% 80% 100%

Q: Which of the following best describes your employer?

Role in Institution

- Nearly three-quarters (73%) of respondents classify themselves as working directly in an IT capacity.

- One-quarter (27%) of respondents are involved in IT functions at their institution, while holding a business operations title.

Job Role

IT/MIS/IRM
73%

Operations
2%

Professor
5%

Other
3%

Administrator
17%

Job Role by Function

IT
73%

Business
Operations
27%

0% 20% 40% 60% 80% 100%

Q: Which of the following best describes your role in your institution?

Involvement in IT and IPv6 Decisions

- All respondents were screened to ensure involvement in both IT and IPv6.
- Two-thirds of respondents report being very involved in IPv6 at their institution.
- Those who make final IT decisions often play multiple roles in the solutions implementation process. Evaluators and Recommenders are referred to collectively as Influencers.
  - Decision Makers comprise 29% of the respondents;
  - Influencers comprise 71%.

Involvement in IPv6 Process

Less Involved 34%

More Involved 66%

IT Involvement

	Evaluate Solutions	Recommend or select solutions	Make final decision or approve solutions
	72%	82%	29%

Note: "Less Involved" = 2 or 3; "More Involved" = 4 or 5.

Note: Multiple responses were allowed.

Q: Please indicate the scope of your involvement in the implementation of information technology (IT) and network solutions for your institution?
Q: How involved are you in the planning or implementation of IPv6 within your institution? (1= Not at all involved; 5= Very involved)

IPv6 Impact

Level of Concern: Availability of IP Addresses

- Less than half (40%) of respondents are concerned about the availability of IP addresses.

Level of Concern

Q: How concerned are you with the availability of IP addresses going forward? (1 = Not concerned at all, 5 = Very concerned)
(Concerned = 4 or a 5; Neutral = 3; Not Concerned = 1 or a 2)

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Anticipated Impact of IPv6 on IT Issues

- Overall, respondents believe that IPv6 will have the most significant impact on expanding network capability and scalability, interoperability, and network management.
  - Those working at two-year institutions are significantly more likely to believe that IPv6 will have an impact on interoperability than those working at four-year institutions.
- Around 15% of respondents are unsure as to how IPv6 will impact all but the most directly network related IT functions.

Legend: ■ Unsure ■ 1 - No effect at all ■ 2 ■ 3 ■ 4 ■ 5 - Significant impact

Issue	Unsure	1 - No effect at all	2	3	4	5 - Significant impact	Average
Expanding network capability/scalability	6%	3%	5%	11%	30%	46%	4.17
Interoperability	11%	2%	4%	18%	28%	36%	4.05
Network management	10%	2%	10%	13%	27%	38%	4.00
Privacy and security of communications	13%	3%	9%	14%	34%	27%	3.84
Mobility services	16%	5%	7%	27%	20%	25%	3.63
Network performance	14%	5%	7%	26%	26%	22%	3.60
Quality of service	18%	2%	10%	27%	28%	15%	3.54
Cost of operations	15%	3%	11%	27%	27%	17%	3.53

Interoperability — 4-Year: 4.15 2-Year: 3.74

Note: Sums of percentages may not equal 100% due to rounding.

Q: How do you believe implementing IPv6 will affect the following?

IPv6 Transition

IPv6 Conversion Milestones

- Nearly three-quarters of respondents reported not having begun the IPv6 transition or enablement stages of IPv6 conversion.
  - Of all respondents, only one reported having completed the IPv6 conversion process.
- Private and Professional schools are significantly more likely than their Public school counterparts to have not begun nearly half of the stages of IPv6 conversion.

Legend: ■ Completed ■ In process ■ Not started ■ Unsure

Milestone	Completed	In process	Not started	Unsure
1. Assigned an individual or committee to lead institution planning	13%	30%	50%	7%
2. Impact and risk analysis stage	6%	30%	57%	8%
3. Inventoried existing technology devices	9%	36%	46%	9%
4. Inventoried applications / services	4%	22%	65%	10%
5. Identified funding for implementation	5%	14%	67%	14%
6. Received funding approval	5%	10%	70%	16%
7. Monitor benefits of IPv6	5%	37%	49%	9%
8. IPv6 transition	%	21%	72%	6%
9. All institution infrastructures using IPv6	2%	15%	73%	11%

Private: 59% Not started
Public: 45% Not started

Private: 71% Not started
Public: 64% Not started

Private: 86% Not started
Public: 64% Not started

Private: 83% Not started
Public: 67% Not started

Note: Sums of percentages may not equal 100% due to rounding.

Q: Please indicate if you have completed, are in progress, or have started working toward the following milestones for IPv6 conversion.

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Expected Timeline for IPv6 Implementation

- Two-thirds of respondents (67%) report being unsure as to when their institutions will be completing IPv6 implementation.
- Just over a quarter of respondents (28%) expect to complete IPv6 conversion within the upcoming academic year.

Note: Sums of percentages may not equal 100% due to rounding.

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IPv6 Planned Application Enablement

- Respondents report plans to IPv6 enable the most directly network-related applications more frequently than those applications less directly tied to an institution's networking infrastructure.

  - Email, Content/Web applications, Video/Multimedia distribution, Unified Communications and Virtualized server environments are at the top of the list for planned conversion.

- Seventeen percent of respondents reported not planning to IPv6 enable any of the listed applications.

% of Respondents Planning to IPv6 Enable Application

Application	%
Email	55%
Content/Web Applications	52%
Video/Multimedia Distribution	43%
Unified Communications	42%
Virtualized Server Environments	42%
Database Applications	37%
Content Load Balancing	28%
Enterprise Resource Management	22%
Human Resources Management	21%
Financial Management Systems	21%
Wide Area File Services	20%
Document Creation/Management	17%
Procurement	14%
Customer Relationship Management	10%
None	17%
Unsure	6%
Other	3%

Note: Multiple responses were allowed.

Q: What applications will you be IPv6 enabling? (Select all that apply.)

Challenges to Implementing IPv6

- Other projects getting higher priority is the most challenging aspect of IPv6 planning and implementation for respondents, followed by adapting the applications and services to support IPv6 transition.

- Funding/budget ranks third and lack of experienced institution staff ranks fourth among challenges.

Challenge	Score
Other projects get higher priority	4.17
Adapting the applications/services to support IPv6 transition	4.03
Funding/budget	3.87
Lack of experienced institution staff	3.85
Developing transition plan	3.79
Products that are available do not meet requirements	3.74
Administration support/buy-in	3.58
Defining the requirements	3.50
Building the business case	3.34
Lack of standards	3.25
Technologies are unproven	3.24

Q: How challenging are, or were, the following factors in your IPv6 planning and implementation? (1= Not at all challenging, 5=Extremely challenging)

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Vendor Outsourcing

Institutional Approach to IPv6 Enablement

- Just over a quarter of respondents (27%) plan to engage with a vendor or contractor for help in developing an implementation solution.

- Only 2% of respondents plan to outsource the entire IPv6 implementation.

- Over a quarter of respondents (28%) are unsure of how their institution will be handling its IPv6 conversion.

28%	15%	27%	2%	28%
Primarily use internal staff to develop a custom solution	Primarily use off-the-shelf software/solutions	Collaborate with a vendor or contractor to develop an implementation solution	Generally outsource the entire implementation	Unsure of institutional approach

Q: Which of the following statements best describes how you are planning to address, or are already addressing, the implementation of IPv6 within your institution?

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Preferred Assistance for IPv6 Implementation

- Three-quarters of respondents (74% each) believe that a solution provider could assist them in the earlier phases of IPv6 conversion, specifically with technical recommendations or assistance during the planning stage and technical support during implementation.

- Only 7% of respondents indicate that a solution provider could not assist in their institution's IPv6 conversion process.

Note: Multiple responses were allowed.

Q: In what ways could an industry solution provider assist you in your IPv6 planning and implementation?

MARKET CONNECTIONS, INC.

Contact Information

Market Connections, Inc.

14555 Avion Parkway, Suite 125

Chantilly, VA 20151

703-378-2025

www.marketconnectionsinc.com