CMS Medicaid Information Technology Architecture Initiative

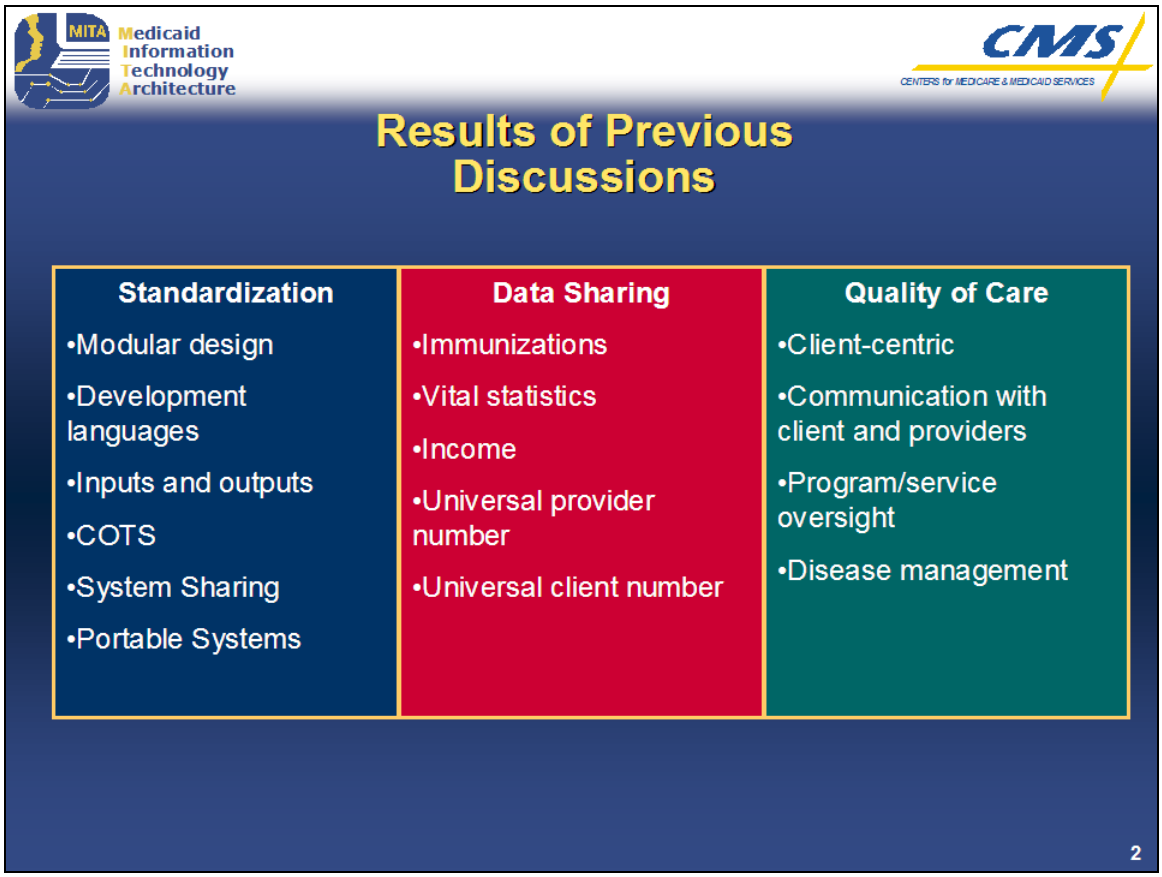
National Medicaid HIPAA& MMIS Conference State and Industry Visioning Session Results Final Draft

March 31, 2003

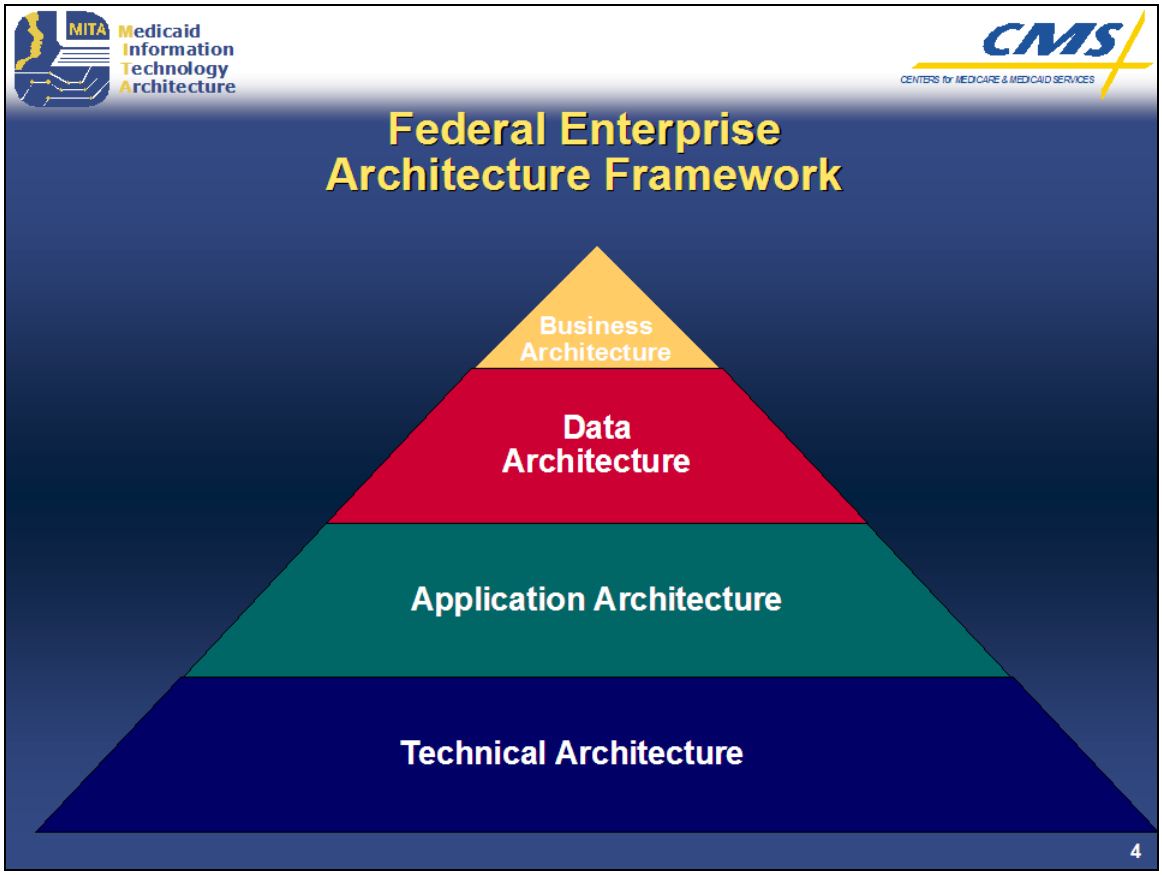
MITA State and Industry Visioning Session Results

During the 2003 National Medicaid HIPAA & MMIS Conference two sessions were held for the purpose of brainstorming to gather input regarding the Medicaid Information Technology Architecture (MITA) initiative. The sessions were scheduled to follow a series of presentations and panel discussions introducing the conference audience to the purpose of MITA. The two sessions were divided between state participants and industry participants.

Session Overview
Each session began with a brief discussion of the results of the six workshops held during the 2002 HIPAA/CMS National Medicaid HIPAA & MMIS conference. The presentation slide below highlights the consistent themes from those workshops.



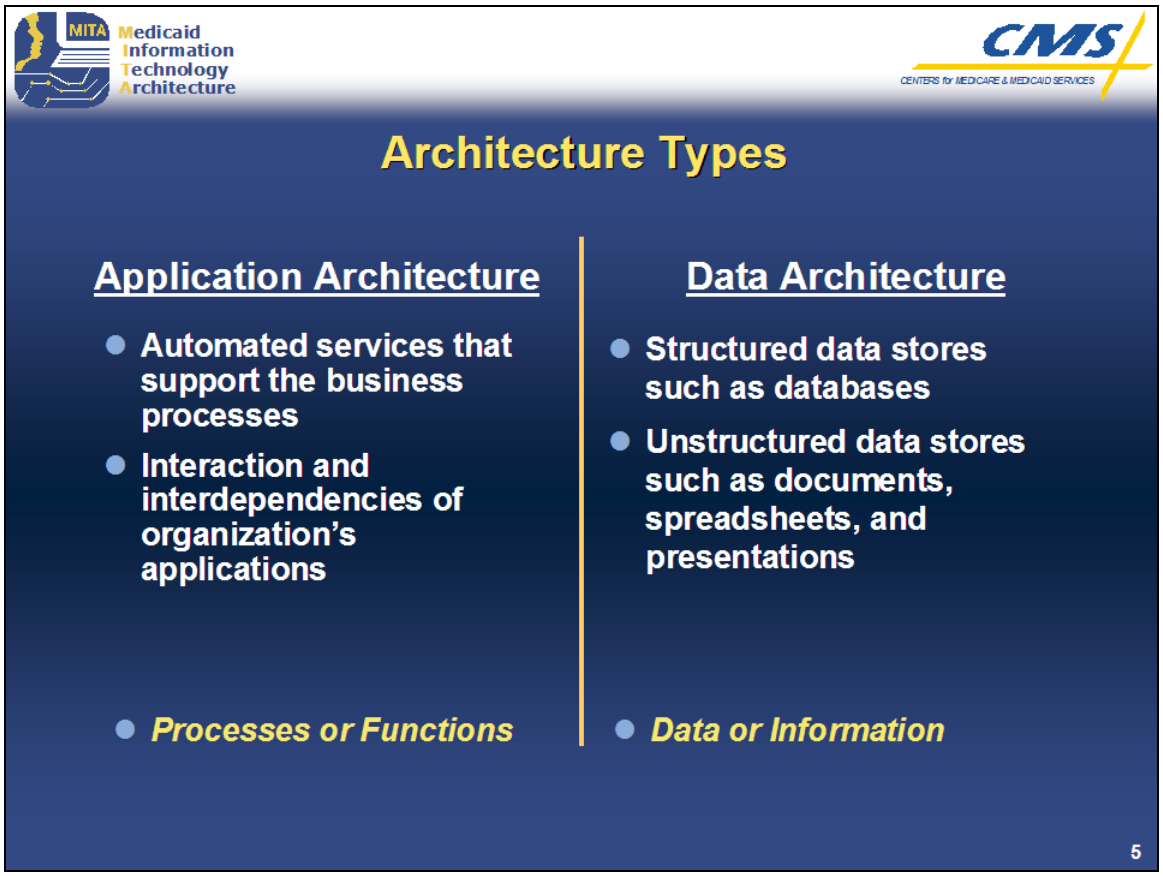
Next, the four levels of the Federal Enterprise Architecture Framework were discussed to lay the groundwork for the brainstorming questions. The graphic below depicts the architecture hierarchical organization.



The following definitions were given.

- The business architecture is the business processes, rules, used to perform the program business functions.
- The data architecture is the data necessary to support those business functions.
- The application architecture is the automated processes that use the data to support the business functions.
- The technical architecture is the network, hardware, and software used to support the applications.

The brainstorming questions were designed to gather information related to application architecture and data architecture.



Brainstorming Methods

The brainstorming was conducted in two ways:

- Electronically – participants were encouraged to use laptops set up for the session to enter their responses during the sessions. Eighteen laptops were made available. As the participants entered their responses, the information was refreshed and viewable to the audience on the presentation screens.
- Manually – participants were provided a handout of the questions and asked to write their responses. The handouts were collected at the end of the session and then entered into the electronic brainstorming software.

All answers were submitted anonymously. Questions were grouped by architecture type with time allotted to respond to each group of questions. Some questions were the same for each group, while other questions were specifically designed for the targeted audience.

The table below shows the participation level.

Participant Group	Number of Questions	Number of Responses
State *	9	234
Industry	10	538

* 20 states represented

While the number of responses from the industry participants was significantly higher than the states, it should also be noted that information technology staff from some of today's primary Medicaid fiscal agent contractors did not submit responses. Several "niche" vendors were represented. This may impact the overall findings.

General Findings

In review of the over 700 responses received, there were a few predominant issues or concerns. These were raised by both state and industry participants.

- There was a general agreement regarding the need for standardization of data formats, interface and integration protocols, and the direction toward modular Medicaid enterprise software advocating reusable design/code. However, the accompanying concern was the loss of autonomy for states to administer their programs to meet the specific needs of the local population.
- Issues regarding the cost and funding of implementing the resulting MITA architecture were raised.
- Several respondents raised the issue of resources needed to administer the possible contractual changes as well as the ongoing programs. The introduction of new technology may result in a shift of skill sets needed by state staff. This could result in the loss of long-term staff with extensive program experience.
- There was unanimous agreement in the need for information sharing among state agencies to better serve the program population and control costs for duplicative services.

It was also interesting to note differences of opinion for the same response. What one respondent considered a positive was sometimes considered a negative by someone else.

Response Categories and Findings

The following tables contain the responses to the individual question from the sessions. Where the same question was posed to both the state and industry, the results have been combined for ease of comparison. Categories were derived based on the responses received. The percent column is the number of responses for that category divided by the total number of responses received for that question. The percentages are rounded. The findings following each question discuss the general responses received and highlight any outstanding comments or concerns.

Question 1	Industry		State	
What new characteristics should Medicaid Enterprise software have?	Responses	%	Responses	%
Analysis/Adhoc Reporting		0%	6	15%
Common Client/Provider Database		0%	7	18%
Common Design w/Customization Options	3	3%	2	5%
Cost		0%	1	3%
COTS		0%	1	3%
Flexible/Easily Maintained	19	18%	3	8%
Industry Standards/Enforcements	10	10%	2	5%
Information Sharing	35	33%	4	10%
Integration	15	14%	2	5%
Interfaces	6	6%		0%
Modularity	4	4%		0%
Role-based Security/Single Entry Point	6	6%		0%
Table Driven/Rules Based Design		0%	3	8%
User Accessibility/Ease of Use	7	7%	5	13%
Web Based/Enabled		0%	3	8%
Total	105		39	

Findings:

- Both state and industry are interested in Medicaid enterprise software that offers flexibility to implement state specific business rules and reducing dependency on programming staff.
- Information sharing between state agencies is also key.
- An emphasis was placed on system integration. Both parties support the move away from stand-alone systems to the integration of systems capable of sharing functions.
- States have an interest in a common provider and client database design to support the sharing of information between agencies and other states.
- States are also concerned about the ability to easily access data for analysis.

Question 2	Industry		State	
How could Medicaid Enterprise software be designed to increase commonality?	Responses	%	Responses **N/A**	%
Common Design w/Customization Options	9	17%		
Funding	1	2%		
Industry Standards/Enforcements	14	26%		
Integration	3	6%		
Interfaces	4	8%		
Modularity	2	4%		
Open Architecture	3	6%		
Role-based Security/Single Entry Point	13	25%		
Table Driven/Rules Based Design	4	8%		
Total	53			

Findings:

- Role-based security allowing for a single point of entry for all MMIS applications and easier maintenance of security tables was emphasized in the responses.
- Data and format standards, along with a common “look and feel” were also addressed.
- It was indicated that enterprise software should provide a framework for developing applications, not simply COTS modules for each different business function. This would allow states to work with a base of code for core function and make enhancements to that code to accommodate the state-specific functions, thus code reuse would be high and customization efforts could be minimized.

Question 3	Industry		State	
What changes to your MMIS have netted the largest return on investment?	**Response N/A**	**%**	**Responses**	**%**
Additional Components (DSS, PBM, Data Warehouse)			7	25%
Data Sharing			3	11%
HIPAA			2	7%
Increased Automation			5	18%
Modified Payment Methodologies			2	7%
Multi-agency systems			4	14%
New Technology (Plastic ID Cards, POS)			4	14%
Web-base Documentation/Publishing			1	4%
Total			28	

Findings:

- Decision support systems (DSS) and data warehouses were the most common response.
- The increased use of automation for eligibility verification, claims submittal, and workflow were also cited.

Question 4	Industry		State	
How could software be changed for easier implementation of new functionality?	**Response**	**%**	**Responses N/A**	**%**
Architecture Oversight/Certification	3	6%		
Common Design w/Customization Options	5	9%		
COTS	2	4%		
Data Accessibility	3	6%		
Implementation Time/Issues	2	4%		
Industry Standards/Enforcements	4	7%		
Interfaces	1	2%		
Modularity	12	22%		
Open Architecture	1	2%		
Relational Database Design	3	6%		
Role-based Security/Single Entry Point	2	4%		
Table Driven/Rules Based Design	16	30%		
Total	54			

Findings:

- The use of table driven/rules based engines was the most common response. The industry also felt that common data element names and definitions were critical to the sharing of data.
- A suggestion was made to cleanse applications of outdated, unnecessarily complex, or "results barren" policies, processes, or logic.
- Timely response on the appeals for the use of local codes was of concern. It was felt that states are being forced to use free-form text fields when a decision is withheld.

Question 5	Industry		State	
How could software products from multiple vendors be easily integrated?	**Response**	**%**	**Responses N/A**	**%**
Collaboration/Partnerships	3	6%		
Common Client/Provider Database	4	7%		
Cost Allocation	4	7%		
Functionality Definitions/Standards	2	4%		
Incentives	4	7%		
Industry Standards/Enforcements	20	37%		
Integration	7	13%		
Interfaces	4	7%		
Open Architecture	4	7%		
Portability	2	4%		
Total	54			

Findings:

- The responses suggested looking beyond the Medicaid industry for standards to encourage compatibility with other technologies.
- The “proof” of software modularity was also addressed as an issue, e.g., what is “modular”?
- The product functionality must be clearly defined and documented.
- The concept of vendor product marketing by emphasizing product compatibility was raised. Vendors should move away from promoting their product as a stand-alone solution and begin focusing on marketing how their product interacts and integrates with other products in the marketplace.
- Several responses addressed the concern of making the vendors aware of the standards with enough lead-time to be responsive to the marketplace.

Question 6	Industry		State	
What impacts would result from more modular Medicaid Enterprise software?	**Response**	**%**	**Responses**	**%**
Competition	15	15%	2	5%
Costs	14	14%	5	13%
Creativity/Innovation	4	4%	4	10%
Flexible/Easily Maintained	5	5%	3	8%
Implementation Issues/Time	3	3%	4	10%
Information Sharing	5	5%		0%
Integration	6	6%	6	15%
Licensing/Ownership Issues	3	3%	1	3%
Modularity	5	5%	1	3%
Oversight/Certification Needs	5	5%	4	10%
Procurement Processes	6	6%	1	3%
Product Definition/Needs	4	4%	3	8%
Productivity/Efficiency	4	4%	3	8%
Reusable Code	2	2%		0%
Risk and Liability Exposure	2	2%		0%
Role-based Security/Single Entry Point	1	1%		0%
Scalability	1	1%	1	3%
Standardization	10	10%	2	5%
Training/Documentation	1	1%		0%
Vendor/State Resistance	4	4%		0%
Total	100		40	

Findings:

- The impact on cost received mixed responses. Some felt the initial cost would be high but lower ongoing costs would result. There is concern that administrative costs will increase due to the need for additional oversight of multiple vendor contracts or the need for a general contractor to coordinate the solution.
- A modular solution could encourage specialty vendors to enter the marketplace. However, there is concern vendors who specialize in customizing solutions may leave the marketplace due to price competition.
- While it is thought that modularity will increase the ability of states to share components, it is also a concern that states will lose the ability to customize components to fit their individual needs. Responses indicated a fear that CMS would force states to accept modules based on availability versus modules that fit the program needs.

Question 7	Industry		State	
What impacts would result from having a common user interface?	**Response N/A**	**%**	**Responses**	**%**
Competition			2	8%
Cost			5	19%
Information Sharing			2	8%
Integration			5	19%
State Autonomy			5	19%
State/Vendor Resources			3	12%
Training/Documentation			4	15%
Total			26	

Findings:

- Many responses doubted the ability to have a common interface that met the needs of all states.
- It was thought that this would reduce training time and increase the ability to share resources across state lines.

Question 8	Industry		State	
What impacts would result from having common application services?	**Response N/A**	**%**	**Responses**	**%**
Cost			2	11%
Creativity/Innovation			3	17%
Data Security			3	17%
Industry Standards/Enforcements			1	6%
Integration			2	11%
Risk and Liability Exposure			2	11%
State Autonomy			3	17%
Training/Documentation			2	11%
Total			18	

Findings:

- The loss of state autonomy was a concern.
- An issue of risk was raised regarding “a potential system problem”. “In a serious situation this could be a nationwide embarrassment for states and CMS alike”. A description of “a potential system problem” was not given but an assumption is made that the respondent was referring to significant downtime or system failure.
- Common applications may result in less creativity and innovation from both vendors and state resources.

Question 9	Industry		State	
What regulatory changes may be required to support modular software?	**Response**	**%**	**Responses**	**%**
Accountability/Liability	5	8%		0%
Certification/Conformity Evaluation	4	6%	2	9%
Common Client/Provider Database	1	2%	1	4%
Data Sharing Rules	2	3%	1	4%
Delivery/Quality of Care	1	2%		0%
Funding	9	14%	7	30%
Guidelines/Requirement Clarification	9	14%		0%
Industry Standards/Enforcements		0%	2	9%
Integration	2	3%		0%
Medicaid Definition/National Health Care	3	5%	1	4%
Multi-Agency/Multi-State Contracts	7	11%		0%
Partnerships	2	3%		0%
Procurement/APD Processes	13	20%	5	22%
State Autonomy	3	5%	2	9%
State Business Rules	2	3%		0%
User/Data Security	3	5%	2	9%
Total	66		23	

Findings:

- The most common response addressed changes to the procurement process. The ability to award contracts to multiple vendors was listed. The potential of multi-agency or multi-state contracts was also a possibility.
- The handling of funding was a concern. Federal match for efforts to create and support enterprise-unified data base components to support Medicaid and other federal human service programs was discussed. Increase of funding for new system training was cited as a concern.
- States felt that the amount of time spent administering procurements and contracts would increase to the point that any savings from “plug and play” software would be lost.
- Industry indicated that state procurement regulations would need to be changed to support the selection of the best value versus the lowest price.
- A conformity evaluation process is necessary to ensure the software is truly modular and conforms to standards for interoperability.
- There may be issues with accountability for problems where multiple entities are involved in a contract. Ownership and licensing was also a concern.

Question 10	Industry		State	
(Industry) What information have you been asked to collect beyond Part 11? (State) What information would you like to collect beyond Part 11?	**Response**	**%**	**Responses**	**%**
Eligibility Determination	2	5%		0%
EPSDT	2	5%		0%
Health Conditions/Survey Data (Health, Tobacco)	7	18%	1	6%
Income, Education, Employer	4	10%	2	13%
Legal (Probates)	1	3%		0%
Medicare Data (MDS, OASIS)	3	8%	2	13%
Miscellaneous	5	13%		0%
Outcome and Case Management Data		0%	6	38%
Provider Identifiers, Demographics, and Ownership	8	21%	1	6%
Registry Data (Immunization, Cancer, Transplant)	4	10%		0%
TPL/Workers Compensation	1	3%	2	13%
Vital Statistics	2	5%	1	6%
Waiver Program Data	1	3%	1	6%
Total	39		16	

Findings:

- Capturing provider licensing information and affiliation data is common request.
- States are also attempting to capture more outcome and case management information to support the changes in delivery methods and quality of care issues.

Question 11	Industry		State	
How could your system improve support for exchanging data?	**Response**	**%**	**Responses N/A**	**%**
Common Client/Provider Database	3	9%		
Common Messaging/Data	1	3%		
ETL Tools	1	3%		
Imaging	1	3%		
Integration	5	16%		
Relational Database	1	3%		
Standard Data Formats	6	19%		
Web Based/Enabled	2	6%		
XML, HIPAA, Web Service Standards	12	38%		
Total	32			

Findings:

- XML and standard data formats were the most common response.

Question 12	Industry		State	
With which external sources would you like to be able to exchange data?	**Response N/A**	**%**	**Responses**	**%**
Bureaus of Licensure and Censure			2	5%
Census Bureaus			2	5%
Child Welfare/Protection			2	5%
Commercial Insurers/Employers			4	11%
Department of Corrections			1	3%
Financial Institutions			2	5%
Health Facilities			4	11%
Medicare Carriers and Intermediaries			2	5%
Other Assorted State Entities			9	24%
Public Health Departments			4	11%
Social Security Administration			2	5%
Vital Statistics			3	8%
Total			37	

Findings:

- States are most interested in sharing information with other state agencies including Department of Corrections, Department of Education, immunization registries, disease surveillance, and other state health plans.

Question 13	Industry		State	
What data format standards does your software support?	**Response**	**%**	**Responses N/A**	**%**
HIPAA, X12, XML, HL7	11	46%		
NCPDP	1	4%		
Should Support All Industry Standards	10	42%		
SOAP, WSDL, UDDI	2	8%		
Total	24			

Findings:

- Most vendors support X12, XML, and HL7. Many responses indicated vendors should support all industry standards.

Question 14	Industry		State	
What impacts would result from data standardization across all 50 states?	**Response**	**%**	**Responses**	**%**
Analysis/Adhoc Reporting	8	9%	1	3%
Collaboration/Partnership	7	8%		0%
Cost	12	13%	1	3%
Creativity/Innovation	2	2%	2	7%
Data Sharing	6	7%	4	14%
Delivery/Quality of Care	4	4%		0%
Flexible/Easily Maintained	11	12%		0%
Fraud and Abuse Detection	3	3%		0%
Industry Standards/Enforcements	12	13%	7	24%
Ownership/Leadership	6	7%	1	3%
Policy Implementation	6	7%	4	14%
Privacy	3	3%	1	3%
Program Comparison	7	8%	1	3%
Staff/Vendor Resources	1	1%		0%
State Autonomy	2	2%	7	24%
Total	90		29	

Findings:

- There were mixed responses related to the cost of standardization. Many felt it would lower the cost due to the ability to share components. However, some felt the implementation cost would exceed the benefits.
- The loss of states ability to administer their individual programs was of concern to the states.
- The resources needed to develop standards and the burden of ongoing review of those standards was brought to question. The need for strong leadership from the Federal, state, and vendor community was cited.
- There was concern about the availability of resources to support new technology at both the state and industry level. Balancing the need for the knowledge and experience of long-term Medicaid experts against the new generation of staff with new technology education could be critical.

General Comments

It is understood that the MMIS marketplace is very competitive and that there may be some hesitation on the part of vendors to share information that may be “market sensitive”. However, as the results show, the industry vendors were very willing to contribute their thoughts to the process.

When polled at the end of the sessions, participants indicated an eagerness to participate in similar sessions in the future. There was a general consensus the methods used to gather the information was highly effective, offering an expedient way of collecting and assimilating data.

Both state and industry participants are looking at technologies to deliver the best services to the program populations, administer services and funds, and support the future Medicaid enterprise.

Next Steps

This data collection and analysis is only the first step of the process. The responses have provided good direction and have raised several points that require further input. There were instances of wide divergence in opinions among a single group, which could benefit from further probing. Several suggestions have been made on the steps to be taken to continue the momentum of this process. The suggestions include:

- Ask CMS staff to participate in a similar visioning session
- Assign a weight to each question and score overall survey
- Where there is a clear divergence in answers, check sample size and consider re-sampling
- Based on the analysis, conduct a follow-up session to collect additional information.

As the project continues to move forward, these suggestions and other approaches will be considered to meet the MITA project objectives.