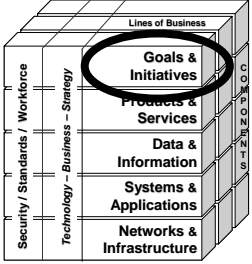


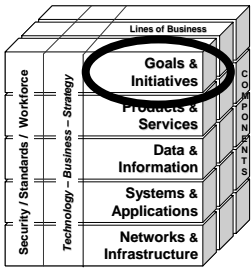



Appendix E

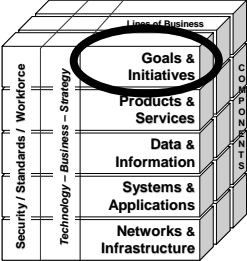
Enterprise Architecture Artifacts

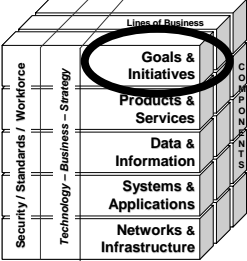
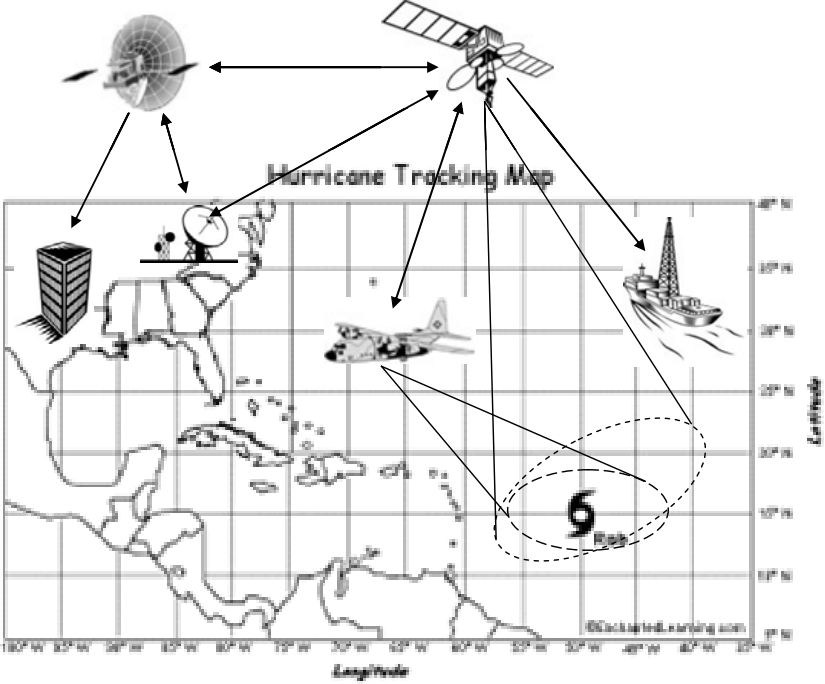
The following is a list of the EA artifacts that are recommended for use when documenting an enterprise using the EA³ Cube framework, with cross-references to Zachman and DODAF. Examples of each follow.

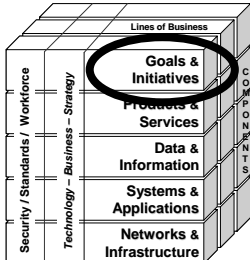
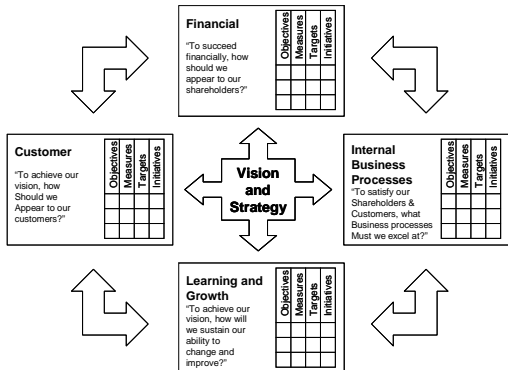
EA ³ Cube Level/Thread	Artifact ID #	Artifact Name (* Composite Artifact)	Zachman Mapping	DODAF Mapping
Strategic Goals & Initiatives (I)	S-1	Strategic Plan*	C6/R1	AV-1
	S-2	SWOT Analysis	C5/R1	
	S-3	Concept of Operations Scenario		AV-1
	S-4	Concept of Operations Diagram	C2/R1	OV-1
	S-5	Balanced Scorecard™ *	C6/R4, C6/R5	
Business Products & Services (B)	B-1	Business Plan*	C2/R2, C5R1	
	B-2	Node Connectivity Diagram	C3/R1	OV-2
	B-3	Swim Lane Process Diagram *	C4/R2	OV-5
	B-4	Business Process/Service Model	C2/R2	OV-5
	B-5	Business Process/ Product Matrix *	C4/R2	
	B-6	Use Case Narrative & Diagram	C6/R3, C6/R4	OV-6a, SV-10a
	B-7	Investment Business Case*		
Data & Information (D)	D-1	Knowledge Management Plan	C1/R1, C1/R2	
	D-2	Information Exchange Matrix*	C3/R2, C4/R2	OV-3
	D-3	Object State-Transition Diagram	C1/R3	OV-6b, SV-10b
	D-4	Object Event Sequence Diagram	C2/R2, C5/R3	OV-6c, SV-10c
	D-5	Logical Data Model	C1/R3	OV-7, SV-11
	D-6	Physical Data Model	C1/R4	
	D-7	Activity/Entity (CRUD) Matrix *	C1/R3, C4/R2	SV-9
	D-8	Data Dictionary / Object Library	C1/R5	AV-2
Systems & Applications (SA)	SA-1	System Interface Diagram	C3/R4, C3R2	SV-1
	SA-2	System Communication Description	C2/R4, C3/R2	SV-2
	SA-3	System Interface Matrix *	C2/R4	SV-3
	SA-4	System Data Flow Diagram	C2/R3	SV-4
	SA-5	System/Operations Matrix *	C2/R4	SV-5
	SA-6	Systems Data Exchange Matrix *	C2/R3	SV-6
	SA-7	System Performance Matrix *	C2/R3	SV-7
	SA-8	System Evolution Diagram	C2/R4	SV-8
	SA-9	Web Application Diagram	C2/R3	
Networks & Infrastructure (NI)	NI-1	Network Connectivity Diagram	C3/R5	
	NI-2	Network Inventory	C3/R5	
	NI-3	Capital Equipment Inventory	C3/R5	
	NI-4	Building Blueprints *	C3/R5	
	NI-5	Network Center Diagram	C3/R5	
	NI-6	Cable Plant Diagram	C3/R5	
	NI-7	Rack Elevation Diagram	C3/R5	
Security (SP)	SP-1	Security and Privacy Plan*	C4/R5	
	SP-2	Security Solutions Description	C4/R5	
	SP-3	System Accreditation Document*	C4/R5	
	SP-4	Continuity Of Operations Plan*	C4/R5	
	SP-5	Disaster Recovery Procedures *	C4/R5	
Standards (ST)	ST-1	Technical Standards Profile	C3/R4	TV-1
	ST-2	Technology Forecast	C3/R4	TV-2, SV-9
Workforce (W)	W-1	Workforce Plan*	C4/R1	
	W-2	Organization Chart	C4/R2	OV-4
	W-3	Knowledge and Skills Profile	C4/R3	OV-4

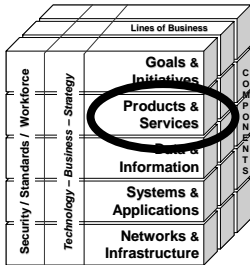
EA ³ Framework Area	Artifact # and Name
	<p style="text-align: center;">S-1: Strategic Plan</p> <p>A Strategic Plan is a high-level policy and planning document that an enterprise uses to document its direction, competitive strategy, most important goals, and the enabling programs and projects (strategic initiatives). The Strategic Plan covers a future period, usually 3-5 years.</p>
Description	
<p>A Strategic Plan is a composite EA artifact that should guide the enterprise's direction over a 3-5 year period in the future by providing the following items, each of which are primitive (basic) EA artifacts. Full versions of abbreviated primitive artifacts are separate artifacts.</p> <ul style="list-style-type: none"> • Provide a <u>Mission Statement</u> and a <u>Vision Statement</u> that succinctly captures the purpose and direction of the enterprise. • Develop a <u>Statement of Strategic Direction</u> that fits the enterprise's purpose, ensures survivability, allows for flexibility, and promotes competitive success. This statement is a detailed description of where the enterprise intends to go. • Summarize the results of a <u>SWOT Analysis</u> that is based on the statement of strategic direction and which identifies the enterprise's strengths, weaknesses, opportunities, and threats. The full SWOT analysis is artifact S-2. • Summarize the situation and planning assumptions for several 'Concept of Operations' <u>CONOPS Scenarios</u> that support the enterprise's strategic direction. This summary should include <i>one current scenario</i> that describes at a high-level the coordination of ongoing activities in each line of business, as well as <i>several future scenarios</i> that account for different combinations of internal and external drivers identified through the SWOT Analysis. The complete scenarios are artifact S-3. • Develop a <u>CONOPS Diagram</u> that in a single picture captures the essence of and participants in the current operating scenario. This graphic is artifact S-4. • Develop a <u>General Competitive Strategy</u> for the enterprise that incorporates the current and future CONOPS scenarios and moves the enterprise in the intended strategic direction in a way that and address internal/external drivers such as culture, line of business requirements, market conditions, competitor strategies, and risk. • Identify <u>Strategic Goals</u> that will accomplish the competitive strategy, and specify the executive sponsors who are responsible for achieving each goal. • Identify <u>Strategic Initiatives</u> and resource sponsors for the initiatives, which are the ongoing programs or development projects that will accomplish each Strategic Goal. • Summarize <u>Outcome Measures</u> for each Strategic Goal and Initiative, using the Balanced Scorecard™ or similar approach. The full scorecard is artifact S-5. 	
Relationship to Other EA Frameworks	
FEAF: Business Level	FEA: PRM
Zachman: C6/R1	DODAF: AV-1

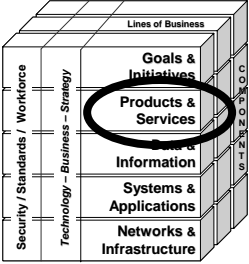
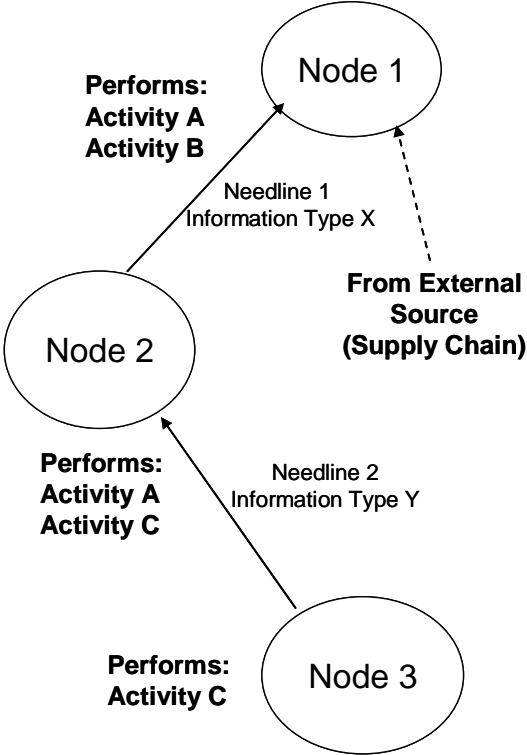
EA ³ Framework Area		Artifact # and Name													
		<h2>S-2: SWOT Analysis</h2> <p>The Strength, Weakness, Opportunity, and Threat (SWOT) Analysis takes a holistic look at the enterprise by identifying internal and external factors which when mapped can reveal areas for improvement and focus.</p>													
<h3>Example</h3> <p>One of the earliest activities the enterprise performs in developing a strategic plan is a ‘Strength, Weakness, Opportunity, Threat’ (SWOT) Analysis. This analysis looks at internal and external factors to determine areas that the enterprise should focus on to increase its survivability and success, as well as areas that the enterprise should avoid, or decrease its exposure to. The results of the SWOT Analysis should be summarized in the Strategic Plan along with the matrix table illustrated below, and the full SWOT Analysis is archived in the EA Repository as a separate primitive artifact (S-2). The following is an example of a way to summarize a SWOT Analysis.</p>															
<table><tr><td>External Factors</td><td>Internal Factors</td></tr><tr><td></td><td></td></tr></table>		External Factors	Internal Factors			<table><tr><td>Internal Strengths (S) <u>S1. User Community</u> <u>S2. Relationships</u> <u>S3. Involved Leadership</u> <u>S4. In-house Technology</u> <u>S5. Legacy Architecture</u> <u>S6. Training Budget</u> <u>S7. Culture</u></td><td>Internal Weaknesses (W) <u>W1. Policy / Regulations</u> <u>W2. Governance Value</u> <u>W3. IT Skills – Systems</u> <u>W4. Enterprise Architecture</u> <u>W5. IT Skills – Process</u> <u>W6. Low Usability/Implementation</u></td></tr><tr><td>External Opportunities (O) <u>O1. Contracting</u> <u>O2. Government</u> <u>O3. New Technology</u> <u>O4. Partnerships</u></td><td>SO <u>S5/O3: Legacy Web Portals</u> <u>S1/O3: Security</u></td><td>WO <u>W4/O4: EA Sharing</u></td></tr><tr><td>External Threats (T) <u>T1. Funding</u> <u>T2. Market Drivers</u> <u>T3. Merger</u> <u>T4. Advanced Technology</u> <u>T5. IT Adoption Rate</u></td><td>ST <u>S1/T2: FED Requirements</u> <u>S6/T5: IT Training</u> <u>S1/T5: IT Awareness</u></td><td>WT <u>W4/T1: Funding Data</u></td></tr></table>		Internal Strengths (S) <u>S1. User Community</u> <u>S2. Relationships</u> <u>S3. Involved Leadership</u> <u>S4. In-house Technology</u> <u>S5. Legacy Architecture</u> <u>S6. Training Budget</u> <u>S7. Culture</u>	Internal Weaknesses (W) <u>W1. Policy / Regulations</u> <u>W2. Governance Value</u> <u>W3. IT Skills – Systems</u> <u>W4. Enterprise Architecture</u> <u>W5. IT Skills – Process</u> <u>W6. Low Usability/Implementation</u>	External Opportunities (O) <u>O1. Contracting</u> <u>O2. Government</u> <u>O3. New Technology</u> <u>O4. Partnerships</u>	SO <u>S5/O3: Legacy Web Portals</u> <u>S1/O3: Security</u>	WO <u>W4/O4: EA Sharing</u>	External Threats (T) <u>T1. Funding</u> <u>T2. Market Drivers</u> <u>T3. Merger</u> <u>T4. Advanced Technology</u> <u>T5. IT Adoption Rate</u>	ST <u>S1/T2: FED Requirements</u> <u>S6/T5: IT Training</u> <u>S1/T5: IT Awareness</u>	WT <u>W4/T1: Funding Data</u>
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<p>From the identification of Internal Strengths (S), Internal Weaknesses (W), External Opportunities (O), and External Threats (T) for the enterprise, a matrix arrangement like the example above can help to reveal internal and external areas to focus on. This SWOT Analysis is also used to help enterprise architects and strategic planners to develop Concept of Operations (CONOPS) scenarios that detail current and future operating environments.</p>															
<h3>Relationship to Other EA Frameworks</h3> <table><tr><td>FEAF: Business Level</td><td>FEA: PRM, BRM</td><td>Zachman: C5/R1</td><td>DODAF: None</td></tr></table>				FEAF: Business Level	FEA: PRM, BRM	Zachman: C5/R1	DODAF: None								
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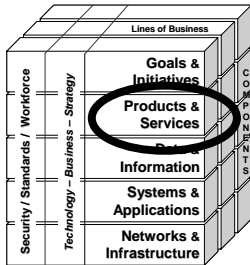
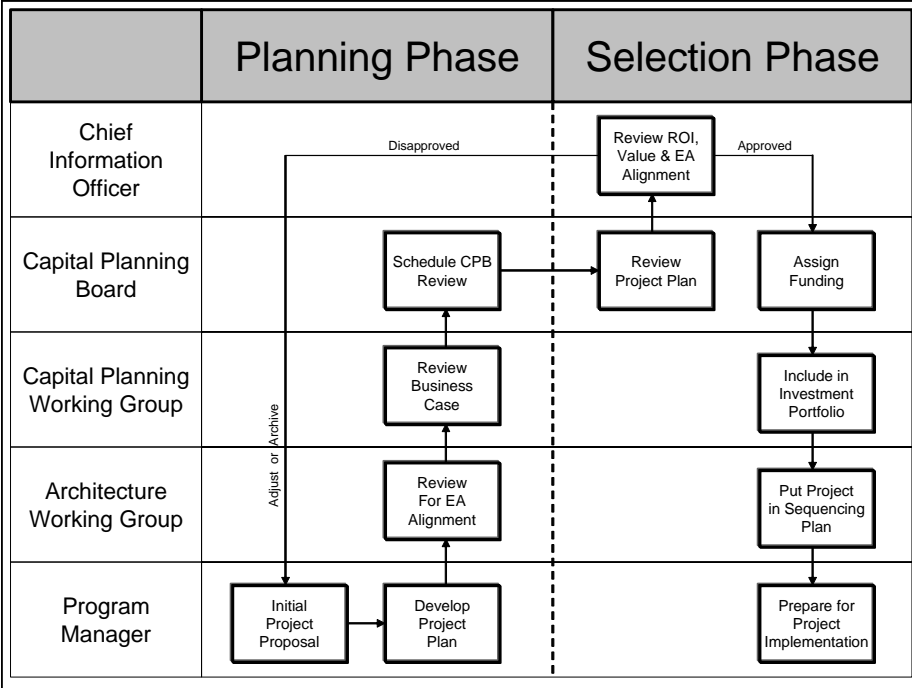
EA ³ Framework Area	Artifact # and Name
	<p data-bbox="813 401 1190 436">S-3: CONOPS Scenario</p> <p data-bbox="703 443 1300 642">A Concept of Operations Scenario is a narrative document that describes how the enterprise operates currently or will operate several years in the future given certain stated internal and external factors identified in the SWOT Analysis. The scenario is footnoted with planning assumptions.</p>
Example	
<p data-bbox="358 741 553 764"><u>Planning Assumptions</u></p> <ol data-bbox="358 774 602 1535" style="list-style-type: none"> 1. New Video Teleconferencing capability. 2. Product roll-outs at National conferences. 3. Need to hold detailed product discussions on short notice, globally. 4. 24x7 work availability. 5. Increased suburban commuting and telecommuting. 6. Tracking of Govt. reports to anticipate product needs. 7. Changing population demographics, driving new product development. 8. Increased cost benefit of solar powered lighting. 9. Additional product features to attract customers 10. Global use of PDAs for employee communication. 11. Integration of sales, marketing, and production information. 12. Accurate customer quotes on the fly. 	<p data-bbox="639 726 1300 877">Jeff Linder, Vice President of Industrial Sales for Danforth Manufacturing Company (DMC) had just finished a presentation at the 2008 National Highway Safety Conference along with Richard Danforth, DMC's CEO, who had teleconferenced in on the big display screen behind the podium.¹ As Jeff was leaving the main conference room, Andrea Newman, Director of Safety and Transportation for the State of Tennessee, asked Jeff if they could talk about the new line of solar-powered highway lights he had just given a presentation on.^{2,3}</p> <p data-bbox="639 884 1300 1184">"Thanks for taking a minute to talk Jeff. I want to tell you about a situation we have in Tennessee and see if your new product line can help" said Andrea as they found a table in the refreshment area.⁴ "No problem, thanks for asking" Jeff said. Andrea pulled up a document on her tablet computer and said "Jeff, here is a report that shows an increasing number of serious accidents in rural areas of Tennessee involving passenger cars and agricultural equipment or commercial trucks. We've attributed it to the growth of suburban communities further out in the countryside that then depend on two-lane country roads for commuting into the city.⁵ When you put slow tractors and trucks together with cars that are in a hurry at all hours to get somewhere, you have a recipe for disaster." "Isn't this problem being seen in other places around the country?" asked Jeff. "Yes, and one of the contributing factors that is consistently coming out of investigations of the night-time accidents is the lack of good lighting on these country roads.⁶ I am thinking that your highway grade solar lighting can help us provide more night visibility on high-risk rural roads without needing electrical infrastructure."^{7,8}</p> <p data-bbox="639 1190 1300 1346">Jeff thought for a minute before responding. "You know, the new line of highway lights has options to incorporate 911 emergency call boxes and Global Positioning System (GPS) equipment that can connect to both State and local level first responders.⁹ This might be useful in also improving response times should an accident occur in spite of the improved lighting." Andrea nodded and said, "Yes, I doubt that better lighting will solve the entire problem, but it will help people see each other better, and these other options can improve accident response times. What is the pricing on these units?"</p> <p data-bbox="639 1352 1300 1545">Jeff pulled his Personal Digital Assistant (PDA)¹⁰ out of his pocket and connected to DMC's marketing and sales database at headquarters via a satellite Internet link.¹¹ "Andrea, these units are \$11,300 each, including the GPS and 911 features." Andrea took notes and responded, "If I can get permission to conduct a pilot test in a couple of months can you provide the lights?" Jeff asked "How many miles of road?" "About four miles in the particular area I'm thinking of" said Andrea. "Ok, the suggested density for the new unit is 18 per mile, so that would be 72 units total. I can give you our 10 percent early-adopter discount, so the total would be \$732,240. Let me check what the shipping time would be."</p>
<p data-bbox="349 1556 1300 1644">Jeff sent a high priority email to Bob Green, Vice President of Manufacturing. Bob was in the factory when he received Jeff's email on his PDA, and after checking the DMC Production Scheduling System, responded two minutes later that a special order for 72 units could be completed and shipped 35 days from when the order is received. Jim relayed this information to Andrea, who said, "Wow, that's fast. I have all the information I need to propose the project, I'll get back to you next week"¹²</p>	
Relationship to Other EA Frameworks	
FEAF: Business Level	FEA: None Zachman: None DODAF: None

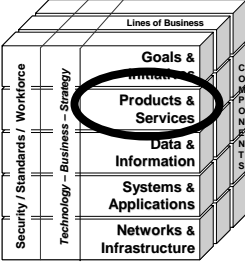
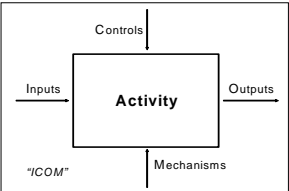
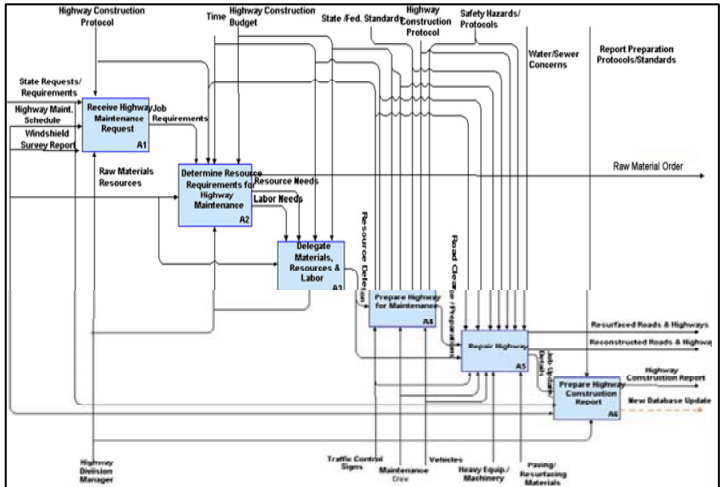
EA ³ Framework Area	Artifact # and Name
	<p>S-4: Concept of Operations Diagram</p> <p>A Concept of Operations (CONOPS) diagram is a high-level graphical depiction of the how the enterprise functions, either overall, or in a particular area of interest.</p>
Example Diagram	
<p>This CONOPS Diagram shows at a high level how a fictitious system called the ‘Hurricane Warning System’ would conduct its primary mission of providing a coordinated weather surveillance and reporting capability using land-based, sea-based, airborne, and space-based resources.</p> 	
Relationship to Other EA Frameworks	
FEAF: Business Level	FEA: None Zachman: C2/R1 DODAF: OV-1

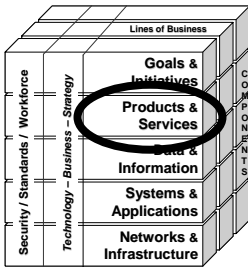
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<div></div>	<div><h3>S-5: Balanced Scorecard™</h3><p>The Balanced Scorecard™ goes beyond financial measures of success for an enterprise and establishes goals and measures in four key business views: <i>Customer</i>;, <i>Financial</i>; <i>Internal Business Processes</i>; and <i>Learning and Growth</i>.</p><h4>Description</h4><p>“The Balanced Scorecard™ suggests that people should view the enterprise from <u>four</u> perspectives, (not just a money perspective) and should develop metrics, collect data, and analyze the enterprise relative to each of these perspectives, as is shown in the figure to the right.”</p><p>“The Balanced Scorecard™ is a management and measurement system that enables enterprises to clarify their vision and strategy and translate them into action. The scorecard provides feedback around both the internal business processes and external outcomes in order to continuously improve strategic performance and results. When fully deployed, the balanced scorecard transforms strategic planning from an academic exercise into the nerve center of an enterprise.”¹</p><div></div><table data-bbox="818 1184 1240 1614"><thead><tr><th>Balanced Scorecard™</th><th>Strategic Initiative 1</th><th>Strategic Initiative 2</th><th>Strategic Initiative 3</th><th>Strategic Initiative 4</th><th>Strategic Initiative 5</th></tr></thead><tbody><tr><td colspan="6">Financial Perspective</td></tr><tr><td>Strategic Objective</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Outcome Measure 1</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Outcome Measure 2</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Output Measure A</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Output Measure B</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Output Measure C</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="6">Internal Business Process Perspective</td></tr><tr><td>Strategic Objective</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Outcome Measure 1</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Outcome Measure 2</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Output Measure A</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Output Measure B</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Output Measure C</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="6">Customer Perspective</td></tr><tr><td>Strategic Objective</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Outcome Measure 1</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Outcome Measure 2</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Output Measure A</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Output Measure B</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Output Measure C</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="6">Learning and Growth Perspective</td></tr><tr><td>Strategic Objective</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Outcome Measure 1</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Outcome Measure 2</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Output Measure A</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Output Measure B</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Output Measure C</td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table><p>¹Balanced Scorecard Institute</p></div>	Balanced Scorecard™	Strategic Initiative 1	Strategic Initiative 2	Strategic Initiative 3	Strategic Initiative 4	Strategic Initiative 5	Financial Perspective						Strategic Objective						Outcome Measure 1						Outcome Measure 2						Output Measure A						Output Measure B						Output Measure C						Internal Business Process Perspective						Strategic Objective						Outcome Measure 1						Outcome Measure 2						Output Measure A						Output Measure B						Output Measure C						Customer Perspective						Strategic Objective						Outcome Measure 1						Outcome Measure 2						Output Measure A						Output Measure B						Output Measure C						Learning and Growth Perspective						Strategic Objective						Outcome Measure 1						Outcome Measure 2						Output Measure A						Output Measure B						Output Measure C					
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EA ³ Framework Area		Artifact # and Name	
		B-1: Business Plan The Business Plan provides a high-level description of the key line of business functions, and financial strategy that will accomplish the strategic goals and initiatives.	
Description			
<p>The following items are often found in a Business Plan:</p> <ol style="list-style-type: none">1. Business Overview2. Executive Team Profile3. Relationship of Business Activities to Strategic Goals4. Organizational Structure5. Market Outlook and Competitive Strategy6. Business Cycles7. Capitalization Summary8. Financial Strategy9. Current Financial Status Summary10. Business Partnerships and Alliances			
Relationship to Other EA Frameworks			
FEAF: Business Level	FEA: None	Zachman: C2/R2, C5/R1	DODAF: None

EA ³ Framework Area	Artifact # and Name
	<p>B-2: Node Connectivity Diagram</p> <p>The Node Connectivity Diagram shows the operational nodes, activities performed at each node, node-to-node relationships, and information exchanges. The purpose of this diagram is to show, at a high level, who are the operating groups in the enterprise (lines of business) and how they share information.</p>
Example	
	
Relationship to Other EA Frameworks	
FEAF: Business Level	FEA: BRM
	Zachman: C3/R1
	DODAF: OV-2

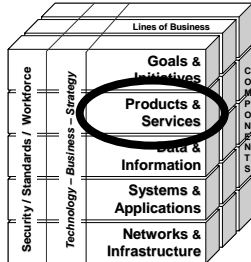
EA ³ Framework Area	Artifact # and Name		
	<h3>B-3: Swim Lane Process Diagram</h3> <p>A Stakeholder Activity Diagram shows which stakeholders (those with a vested interest in the enterprise) are involved with line of business processes, and the timing of that interaction. The diagram uses the format of ‘swim lanes’ to arrange stakeholders by row, and timeframes by column, then overlaying activities with flowchart symbology.</p>		
Example			
			
Relationship to Other EA Frameworks			
FEAF: Business Level	FEA: BRM	Zachman: C4/R2	DODAF: OV-5

EA ³ Framework Area	Artifact # and Name
	<p>B-4: Business Process Diagram</p> <p>A Business Process Diagram shows a detailed breakdown of an activity, including how each step in the activity relates to the others. The B-4 diagram follows the IDEF-0 modeling technique to show what the inputs, controls, outputs, and mechanisms are for each step in the process.</p>
Description and Example	
	<p>Inputs: Items that initiate/trigger the activity and are transformed, consumed, or become part.</p> <p>Controls: Guide or regulate the activity; usually indicate when/ how a process will be performed.</p> <p>Outputs: The results produced by the activity; the reason for which the process was performed.</p> <p>Mechanisms: Systems, people, and equipment used to perform the activity.</p>
<p>IDEF-0 activity modeling is suitable for business process documentation in that it provides both high level context views, and more detailed views of each step in the activity in a format that can be further decomposed and interrelated with other processes to show linkages. This type of diagram is useful in showing linkages between steps and internal/external influences, but may not indicate a time sequence.</p>	
	
Relationship to Other EA Frameworks	
FEAF: Business Level	FEA: BRM Zachman: C2/R2 DODAF: OV-5

EA ³ Framework Area		Artifact # and Name							
		<h3>B-5: Activity/Product Matrix</h3> <p>The Business Activity & Product Matrix maps the lifecycle of revenue-producing products to various lines of business throughout the enterprise. This matrix highlights who owns business processes and products, as well as the extent of supply chains.</p>							
Example									
<p>The Activity/Product Matrix maps the lifecycle of each revenue-producing product that the enterprise produces to the line(s) of business that support one or more phases of the product lifecycle. This matrix allows the enterprise to see where the vertical and horizontal (cross-cutting) business product activities are located, as well as to help define ownership of those processes. The B-5 Activity/Product Matrix can then be used with various Data & Information level artifacts (e.g. D-7 Activity/Entity Matrix) to further map the product lifecycle to requirements for data across the enterprise.</p>									
		Line of Business A	Line of Business B	Line of Business C	Line of Business D	Line of Business E	Line of Business F	Line of Business G	Remarks
Business Product									
Product 1	R					F	L		
Product 2		M	W	D	S	F	L		
Product 3		M	W	D	S	F	L		
Product 4	R					F	L		
Product 5		M				F	L		
Product 6		M	W	D	S	F			
R = Research & Develop W = Warehouse S = Service L = Legal M = Manufacture D = Distribute F = Financials									
<p>The product lifecycle illustrated in this example has five sequential stages (research and development, manufacturing, warehouse storage, sales/distribution, and servicing) and two parallel administrative functions (financials and legal). Product lifecycles are different within most enterprises, and adjustments to the B-5 matrix should be made accordingly.</p>									
Relationship to Other EA Frameworks									
FEAF: Business Level			FEA: BRM		Zachman: C4/R2		DODAF: None		

EA³ Framework Area

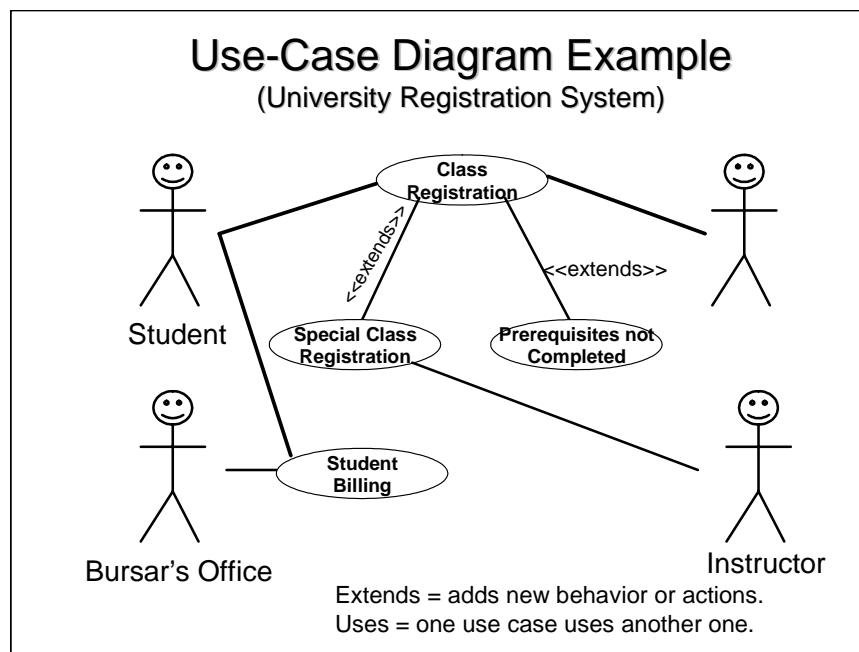
Artifact # and Name



B-6: Use Case Narrative & Diagram

A Use Case narrative follows the Unified Modeling Language (UML) format for identifying business requirements, their context, stakeholders (actors), and business rules for their interaction with systems, services, and applications that are identified as technology solutions requiring development.

Example



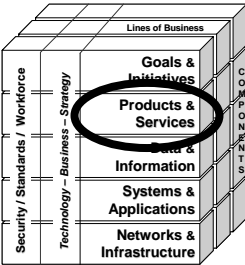
Relationship to Other EA Frameworks

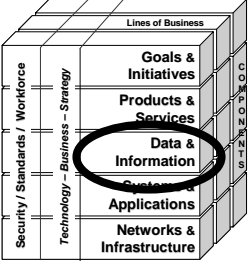
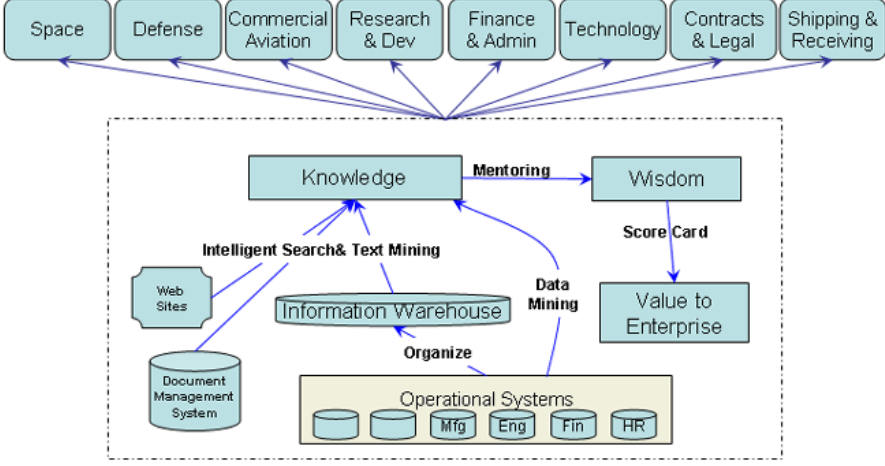
FEAF: Business Level

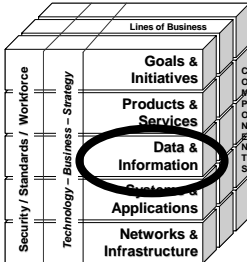
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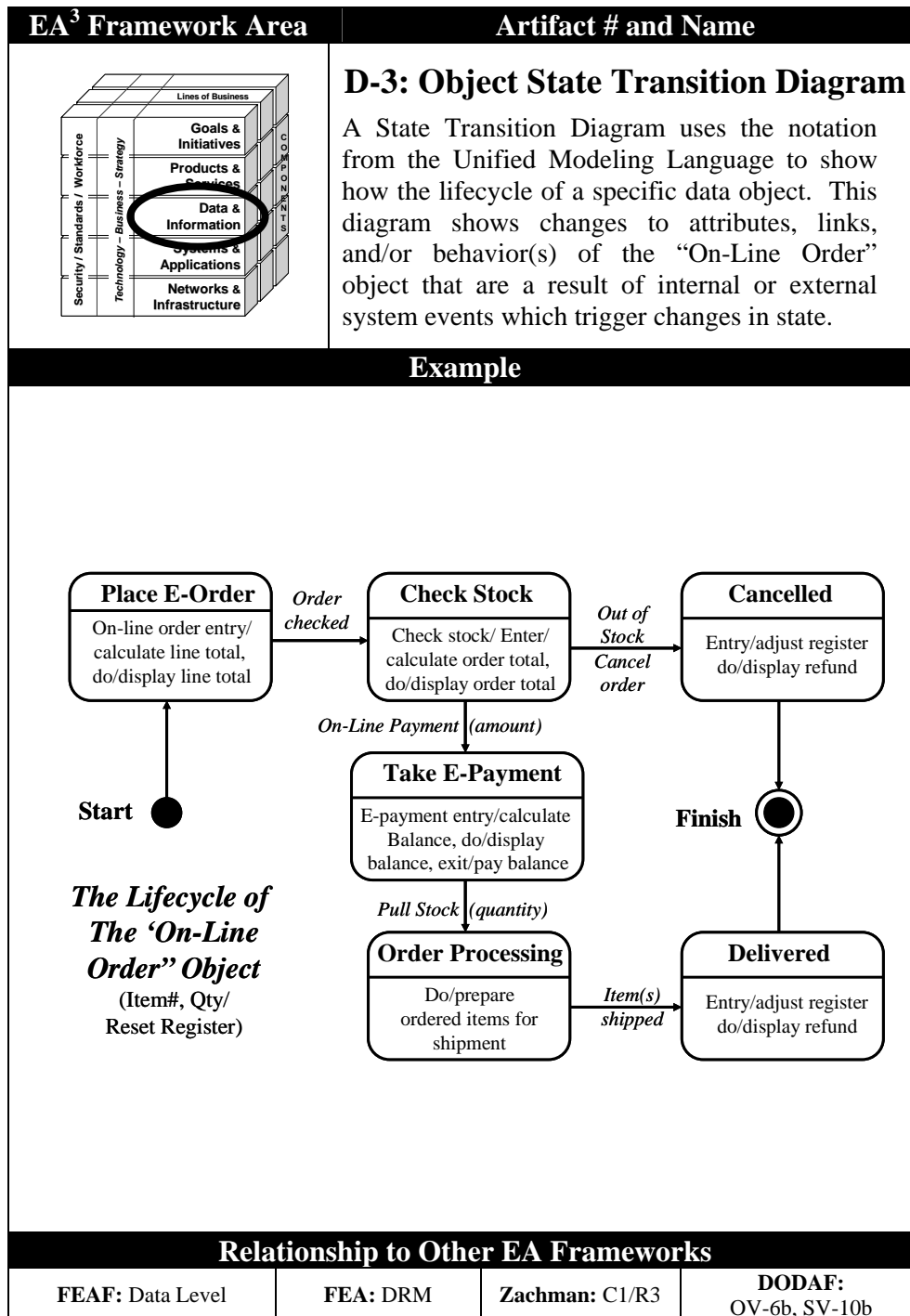
Zachman:
C6/R3, C6/R4

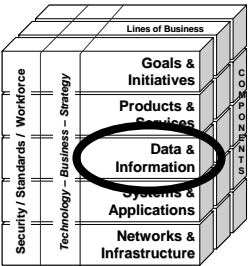
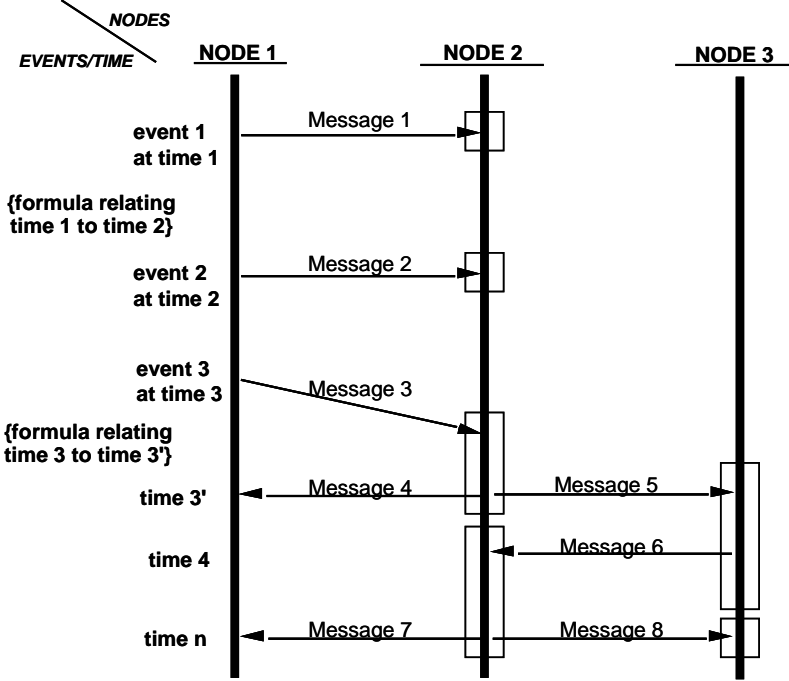
DODAF:
OV-6a, SV-10a

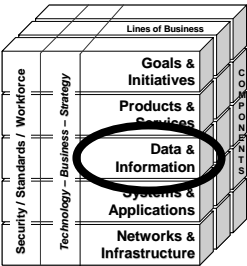
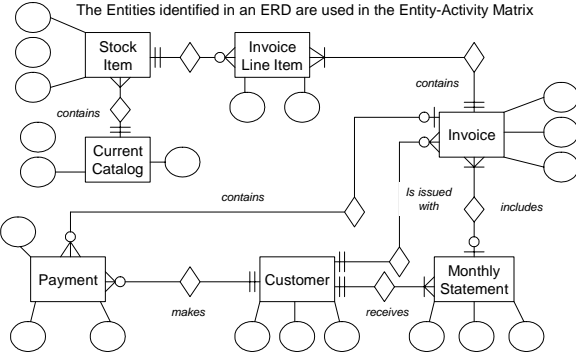
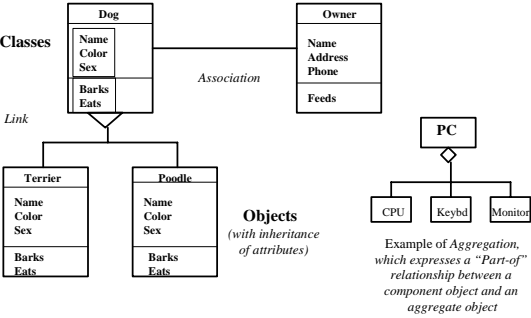
EA ³ Framework Area	Artifact # and Name
	<p>B-7: Investment Business Case</p> <p>An Investment Business Case uses a standard format to describe the value, risk, and return on investments made in technology and other resources. The Business Case also contains an alternatives analysis, program performance tracking metrics, architecture information, and security status information.</p>
Example	
<ol style="list-style-type: none"> 1. <u>New Requirement.</u> A new requirement for resource(s) or support is identified in a line of business (LOB), which is brought to the EA and capital planning teams for evaluation. 2. <u>Existing Solution Check.</u> The EA and capital planning teams determine that an existing EA component cannot meet the requirement. 3. <u>New Solution Business Case.</u> The sponsoring LOB determines that the requirement is of sufficient importance to merit the cost of developing a business case: <ul style="list-style-type: none"> • <u>Business Need.</u> Describe the requirement in terms of the gap in operational or administrative performance it represents to the LOB and the enterprise. • <u>Impact if Not Resolved.</u> Describe the impact to the enterprise if the performance gap is not resolved, including strategic, business, and technology impact. • <u>Alternatives Analysis.</u> Identify 3 or more viable alternative solutions (if 3 exist). • <u>Cost-Benefit Analysis.</u> Quantify the direct and indirect costs and benefits for each alternative on a lifecycle basis, including qualitative items. • <u>Return on Investment.</u> Do a ROI calculation for each alternative. • <u>Net Present Value Adjustment.</u> Do a NPV adjustment for each ROI calculation to account for anticipated cost increases over the investment's lifecycle. 4. <u>Business Case Evaluation.</u> The business case's alternatives are evaluated by the Architecture Working Group (AWG) for the correctness of the analysis, and alignment with the EA at each level of the framework. The Capital Planning Working Group (CPWG) then reviews the business case for the correctness of the financial analysis. A coordinated recommendation is made to the executive-level Capital Planning Board (CPB) as to whether the business case should be approved or disapproved. 5. <u>Business Case Approval.</u> The CPB reviews and approves/disapproves the business case in the context of the enterprise's overall investment portfolio using criteria that identify value from a strategic, business, and technology perspective: 6. <u>Implementation.</u> If the business case is "selected" (approved) for funding by the CPB, the proposed solution becomes an implementation project that is managed by the sponsoring LOB. The project is reviewed by the CPB at key milestones and/or periodically as part of the capital planning process' oversight of all projects. 	
Relationship to Other EA Frameworks	
FEAF: None	FEA: Exhibit 300 Zachman: None DODAF: None

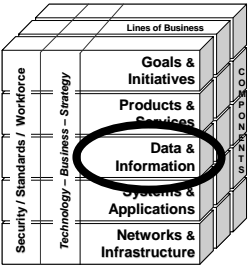
EA ³ Framework Area	Artifact # and Name
	<p>D-1: Knowledge Management Plan</p> <p>The Knowledge Management (KM) Plan provides a detailed description of how knowledge, information, and data are shared across the enterprise. The KM Plan includes descriptions and diagrams of information sharing between systems, applications, knowledge warehouses, and databases</p>
Description and Example	
<p>KM Plan Contents</p> <ul style="list-style-type: none"> • The approach to managing data, information, and knowledge across the enterprise • How data and information-sharing support the Business Plan • Data and information-sharing strategies and diagrams for each line of business • Data and information sharing strategies with external partners and customers • Which types of data in the enterprise require extra protection • The lifecycle for data and information that is key to the success of the enterprise (data creation, sharing, updating, storage, retrieval, and deletion) 	
<p>Example of a High Level KM Diagram</p> 	
Relationship to Other EA Frameworks	
FEAF: Data Level	Zachman: C1/R1, C1/R2 DODAF: None

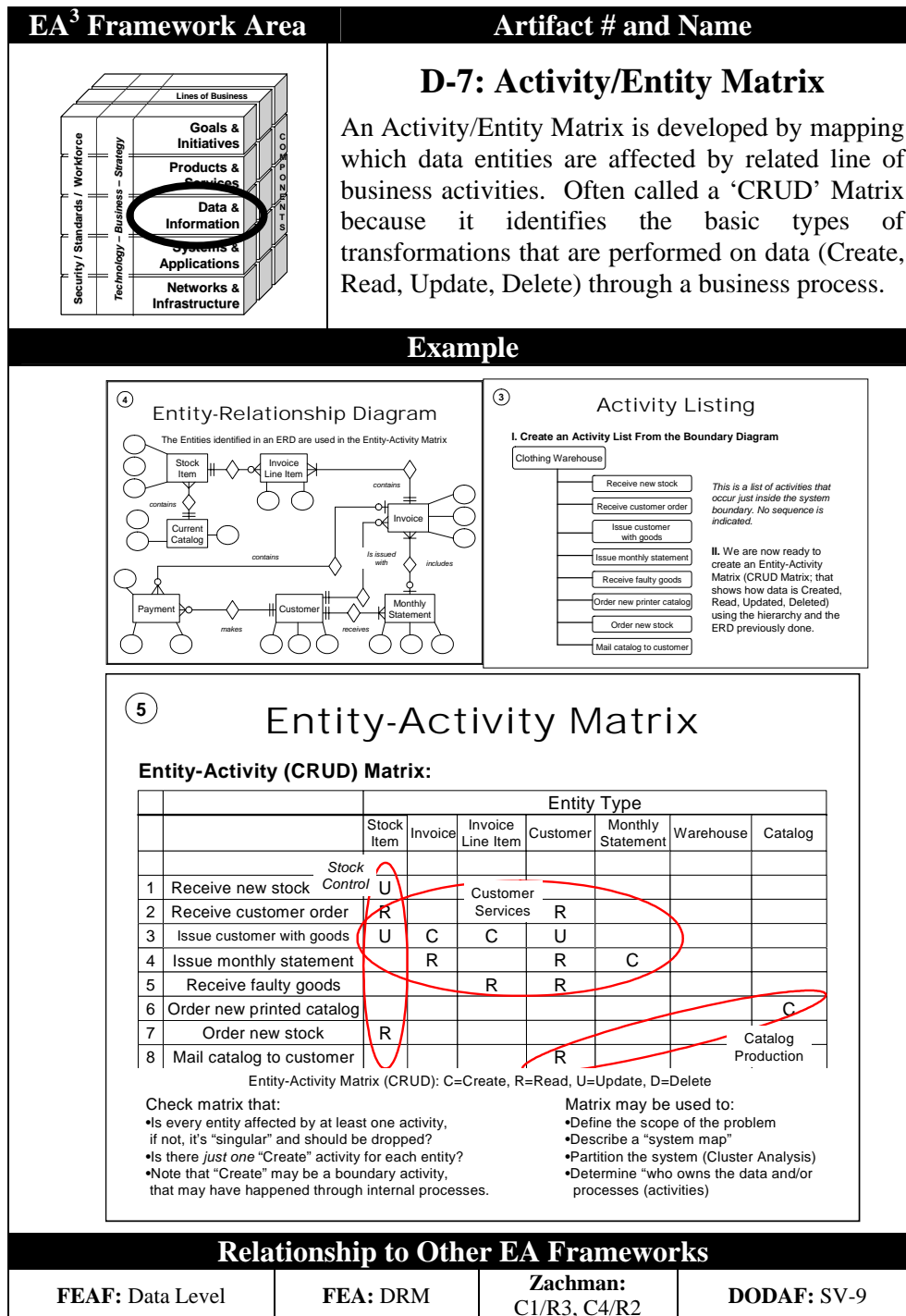
EA ³ Framework Area	Artifact # and Name																																								
	<h2>D-2: Information Exchange Matrix</h2> <p>The Information Exchange Matrix describes relevant attributes of data exchanges between systems. These attributes include size, logical specification of the information i.e., media, timeliness required, and the security classification and properties of the information.</p>																																								
<h3>Example</h3> <p>Information exchanges express the relationships across four important aspects of the architecture (information, activities, locations, and times) with a focus on the specific aspects of the information flow. Information exchanges identify which business nodes exchange what information during the performance of what activities and in response to which events. Additional information on who is performing the activity can be added, if needed for security analysis. The detailed information in the Information Exchange Matrix may be hard to collect but it is necessary to fully understand the information flow in the enterprise and its security aspects.</p> <p>The matrix also identifies the event that triggers the information exchange (e.g., set schedule or citizen request). The matrix keys the exchange to the producing and using activities and nodes and to the needline (from the Node Connectivity Diagram) the exchange satisfies. The Information Exchange Matrix partitions each high-level needline into its component parts, i.e., into distinct information exchanges between business nodes. An example format for this artifact is provided below. Additional characteristics may be added to the D-1 matrix based on the purpose or goals of the enterprise.¹</p>																																									
<table><tr><th colspan="6">INFORMATION DESCRIPTION</th><th colspan="2">SOURCE</th><th colspan="2">DESTINATION</th><th colspan="4">INFORMATION EXCHANGE ATTRIBUTES</th></tr><tr><th>NEEDLINE IDENTIFIER</th><th>INFORMATION EXCHANGE NAME/ID</th><th>CONTENT</th><th>MEDIA</th><th>SIZE</th><th>SENDING NODE</th><th>SENDING ACTIVITY</th><th>RECEIVING NODE</th><th>RECEIVING ACTIVITY</th><th>TRIGGERING EVENT</th><th>FREQUENCY TIMELINESS THROUGHPUT</th><th>SECURITY</th><th>INTEROPERABILITY REQUIREMENTS</th></tr><tr><td></td><td></td><td></td><td>DIGITAL, VOICE, TEXT, IMAGE, ETC.</td><td>RANGE LIMITS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>		INFORMATION DESCRIPTION						SOURCE		DESTINATION		INFORMATION EXCHANGE ATTRIBUTES				NEEDLINE IDENTIFIER	INFORMATION EXCHANGE NAME/ID	CONTENT	MEDIA	SIZE	SENDING NODE	SENDING ACTIVITY	RECEIVING NODE	RECEIVING ACTIVITY	TRIGGERING EVENT	FREQUENCY TIMELINESS THROUGHPUT	SECURITY	INTEROPERABILITY REQUIREMENTS				DIGITAL, VOICE, TEXT, IMAGE, ETC.	RANGE LIMITS								
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FEAF: Data Level	FEA: DRM	Zachman: C3/R2, C4/R2	DODAF: OV-3																																						



EA ³ Framework Area	Artifact # and Name
	<p>D-4: Object Event Trace Diagram</p> <p>Also called an Object ‘Sequence’ Diagram, the D-5 diagram allows the tracing of actions in a set of scenarios or operational threads. Each model should focus on a critical sequence of events and a description of this scenario should accompany the model.</p>
Example	
<p>With time proceeding from the top of the diagram to the bottom, a specific diagram lays out the sequence of information exchanges that occur between business nodes for a given scenario. These information exchanges are associated with events and actions (see Information Exchange Matrix). The direction of the event arrows shows flow of control, in terms of the business process, from node to node.¹</p>  <p>¹K.Sowell and A. Reedy, 2001</p>	
Relationship to Other EA Frameworks	
FEAF: Data Level	FEA: DRM Zachman: C2/R2, C5/R3 DODAF: OV-6c, SV-10c

EA ³ Framework Area	Artifact # and Name
	<p data-bbox="800 409 1193 445">D-5: Logical Data Model</p> <p data-bbox="695 464 1302 659">A semantic data model can be developed using traditional structured methods and symbology (Entity Relationship Diagram), or one can use the object-oriented method and symbology of the Unified Modeling Language (UML), which produces a Class Diagram and/or Object Diagram.</p>
Example	
<div data-bbox="534 747 1135 1199"> <p data-bbox="553 768 573 789">④</p> <h3 data-bbox="609 785 1062 821">Entity-Relationship Diagram</h3> <p data-bbox="621 835 1078 852">The Entities identified in an ERD are used in the Entity-Activity Matrix</p>  </div> <div data-bbox="534 1207 1135 1648"> <h3 data-bbox="735 1230 943 1266">Class Diagram</h3> <p data-bbox="678 1268 1000 1285">(shows the <i>static</i> structure of a system)</p>  <p data-bbox="824 1524 906 1577">Objects (with inheritance of attributes)</p> <p data-bbox="959 1556 1105 1629">Example of Aggregation, which expresses a "Part-of" relationship between a component object and an aggregate object</p> </div>	
Relationship to Other EA Frameworks	
FEAF: Data Level	FEA: DRM Zachman: C1/R3 DODAF: OV-7, SV-11

EA ³ Framework Area	Artifact # and Name
	<p data-bbox="792 415 1203 457">D-6: Physical Data Model</p> <p data-bbox="695 499 1302 646">The Physical Data Model is used to describe how the information represented in the Logical Data Model is actually implemented in automated information systems.</p>
Example	
<p data-bbox="367 783 730 1633">There should be a mapping from a given Logical Data Model to the Physical Data Model (PDM). The PDM is a composite model whose components can vary greatly, as shown in the template below. For some purposes, an entity-relationship style diagram of the physical database design will suffice. Data Definition Language may also be used in the cases where shared databases are used to integrate systems. References to message format standards (which identify message types and options to be used) may suffice for message-oriented command and control subsystems. Descriptions of file formats may be used when file passing is the mode used to exchange information. Interoperating systems may use a variety of techniques to exchange data, and thus have several distinct partitions in their PDM with each partition using a different form.¹</p>	<p data-bbox="792 793 1263 835">Physical Data Model Provides</p> <p data-bbox="792 846 1019 888"><u>Message Format:</u></p> <ul data-bbox="792 888 1279 1056" style="list-style-type: none"> - Standards Reference - Message Type(s) - Message Fields with Representation - Map From the Logical Data Model to the Message Fields <p data-bbox="792 1098 987 1140"><u>File Structure:</u></p> <ul data-bbox="792 1140 1263 1266" style="list-style-type: none"> -Standards Reference -Record and File Descriptions -Map from Logical Interface Model to Record Fields <p data-bbox="792 1308 1036 1350"><u>Physical Schema:</u></p> <ul data-bbox="792 1350 1263 1507" style="list-style-type: none"> -DDL or ERA Notation with sufficient detail to generate the schema -Map from the Logical Data Model to the Physical Data Model with Rationale
<p data-bbox="1027 1644 1302 1675">¹ K. Sowell and A. Reedy, 2001</p>	
Relationship to Other EA Frameworks	
FEAF: Data Level	FEA: DRM Zachman: C1/R4 DODAF: OV-7, SV-11



EA³ Framework Area

Artifact # and Name

D-8: Data Dictionary

The Data Dictionary provides a comprehensive listing of the data entities that are collected and maintained by the enterprise, including standards for the attribute fields, keys, and relationships. The Data Dictionary may also include a ‘library’ of re-useable Data Objects that use UML methods.

Example

FIELD NAME	DATA TYPE	FIELD LENGTH	KEY	CAPTION	DESCRIPTION	SAMPLE
PRT_ID	NUMBER	5	PK	PROTOTYPE ID	A sequential number that uniquely identifies each record in tblPrototype	66352
PROP_ID	NUMBER	5	FK	PROPOSAL ID	A sequential number that uniquely identifies each record in tblProposal	37642
PRT_PRDLIN E	TEXT	20		PROTOTYPE PRODCUT LINE	The target Solar Cell product line	Consumer
PRT_VOLTAGE	NUMBER	5		PROTOTYPE VOLTAGE	Electrical output, in volts	3.5
PRT_DESCRIPTION	TEXT	100		PROTOTYPE DESCRIPTION	A brief description of the prototype	...
PRT_WIDTH	NUMBER	20		PROTOTYPE WIDTH	Width, in inches, of the prototype	2
PRT_LENGTH	NUMBER	20		PROTOTYPE LENGTH	Length, in inches, of the prototype	4.25
PRT_THICKNESS	NUMBER	20		PROTOTYPE THICKNESS	Thickness, in inches, of the prototype	.375
PRT_WEIGHT	NUMBER	20		PROTOTYPE WEIGHT	Weight, in ounces, of the prototype	10
PRT_START	DATE			PROTOTYPE START DATE	Date development of the prototype began	11/29/2000
PRT_END	DATE			PROTOTYPE END DATE	Date development of the prototype was completed	5/17/2001

Relationship to Other EA Frameworks

FEAF: Data Level	FEA: DRM	Zachman: C1/R5	DODAF: AV-2
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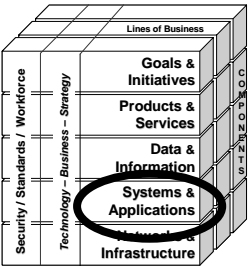
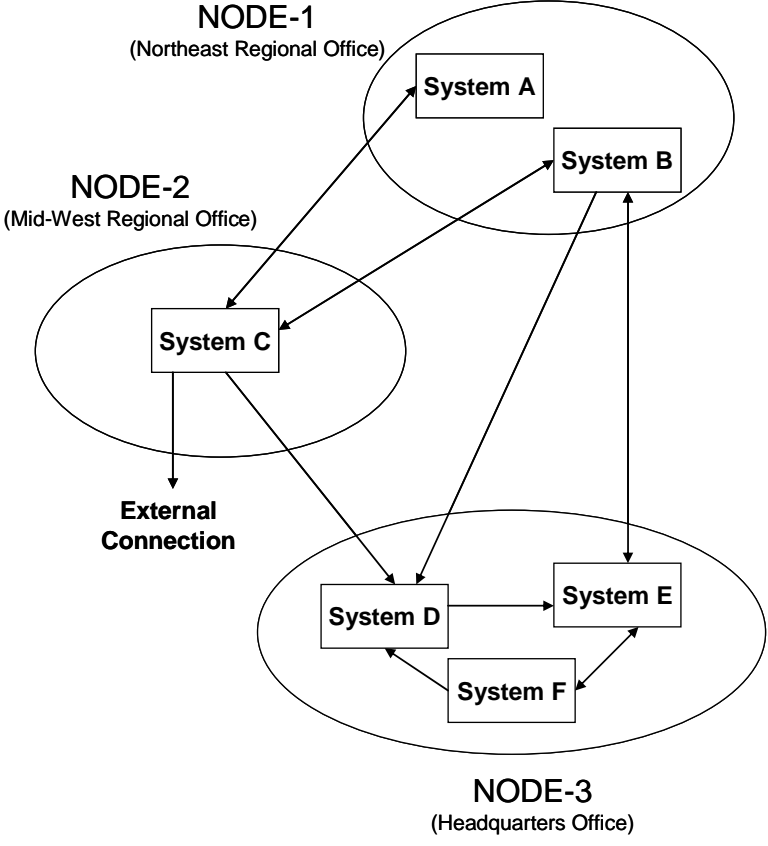
D-8: Data Dictionary

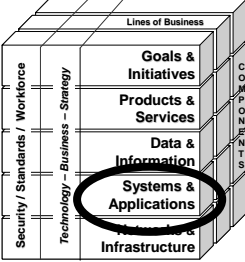
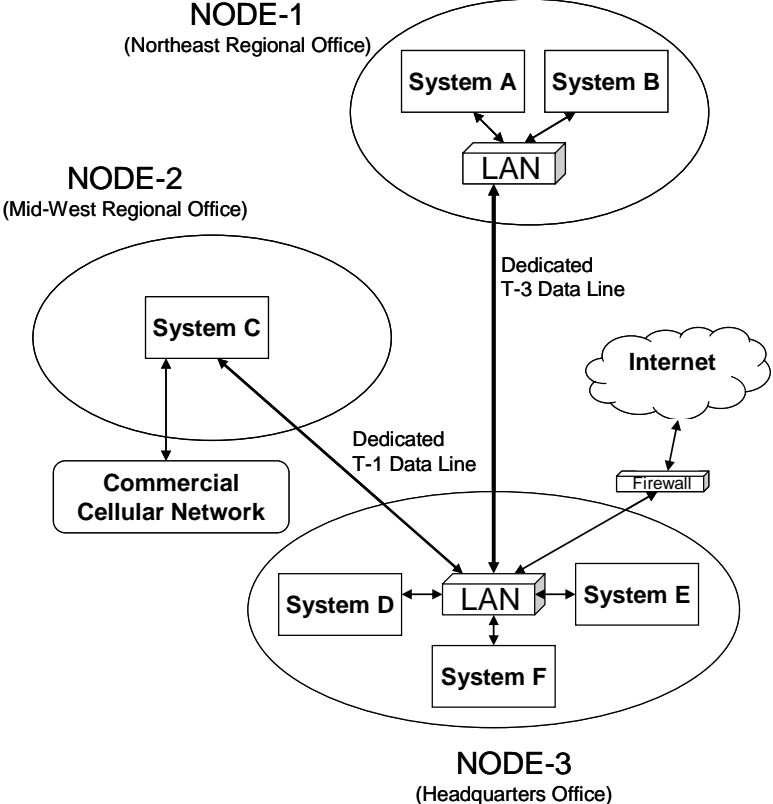
Example

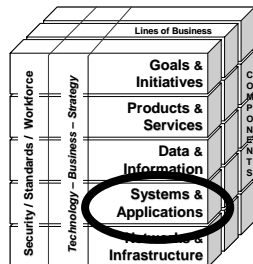
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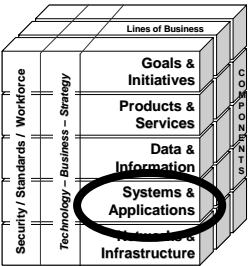
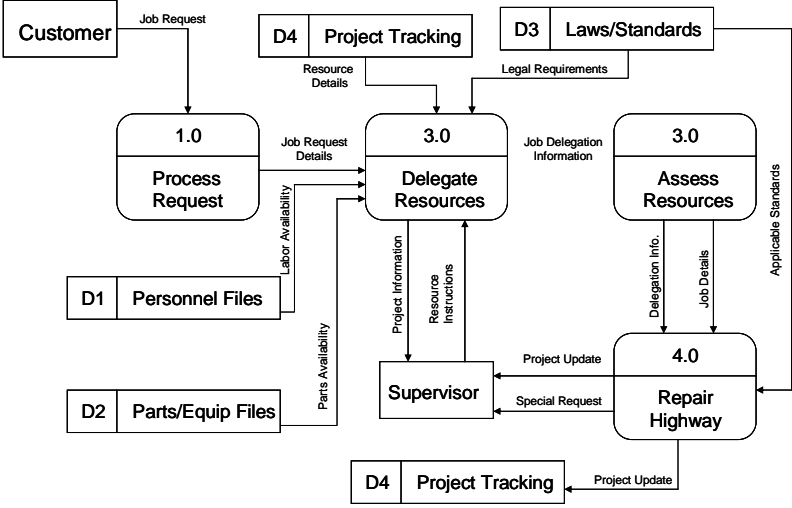
Relationship to Other EA Frameworks

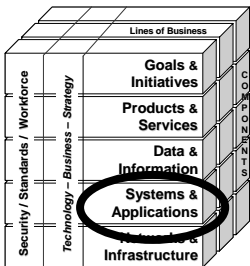
FEAF: Data Level	FEA: DRM	Zachman: C1/R5	DODAF: AV-2
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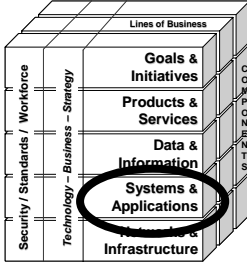
EA ³ Framework Area	Artifact # and Name
	<p data-bbox="737 407 1256 449">SA-1: System Interface Diagram</p> <p data-bbox="695 491 1302 627">The System Interface Diagram shows the logical and/or physical interfaces between the enterprise's systems for information, production, etc. where information and/or other resources are exchanged.</p>
Examples	
	
Relationship to Other EA Frameworks	
FEAF: Application Level	FEA: SRM Zachman: C3/R4, C3/R2 DODAF: SV-1

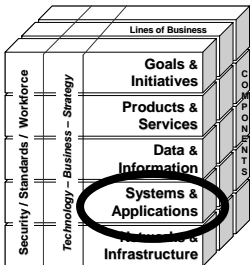
EA ³ Framework Area	Artifact # and Name
	<p data-bbox="756 411 1235 489">SA-2: System Communication Description</p> <p data-bbox="695 506 1300 667">The S-2 artifact compliments the S-1 System Interface Diagram by providing a description of how data is communicated between systems throughout the enterprise, and includes specifics about links, paths, networks, and media.</p>
Example	
	
Relationship to Other EA Frameworks	
FEAF: Application Level	FEA: SRM Zachman: C2/R4, C3/R2 DODAF: SV-2

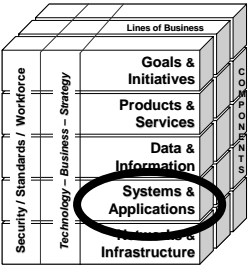
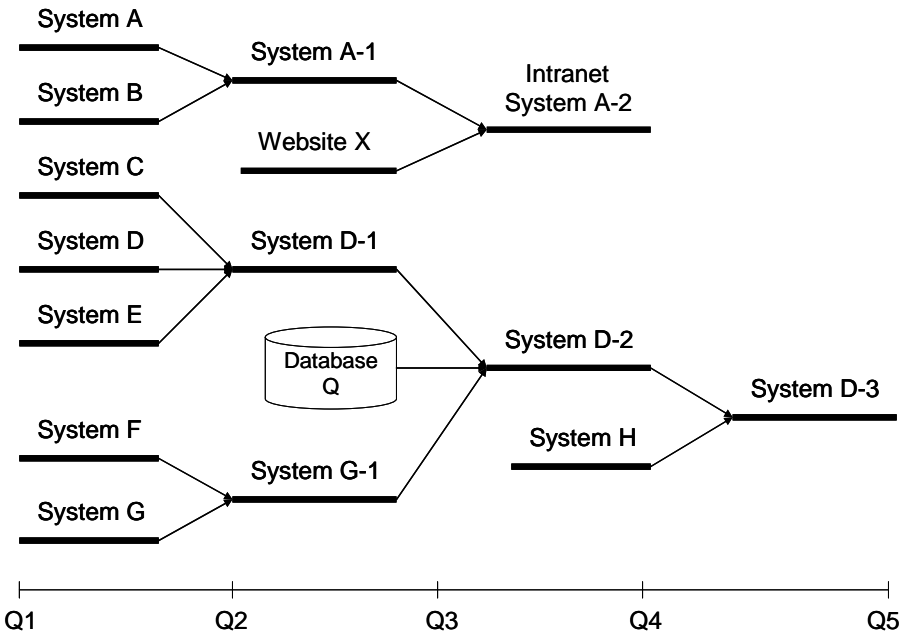
EA ³ Framework Area	Artifact # and Name																																																																																																														
	<h3>SA-3: System Interface Matrix</h3> <p>The System Interface Matrix shows the nature and status of physical and logical interfaces between information systems throughout the enterprise.</p>																																																																																																														
Example																																																																																																															
<div>1. Provides detail on the interface characteristics of the SA-1 artifact.<ul style="list-style-type: none">Allows quick overviewEnables rapid assessment of potential re-use or redundancies</div> <div>2. Useful tool for managing the evolution of systems, infrastructures, technology insertion, functional upgrades.</div> <div>3. Interface characteristics that could be captured include: Status (existing, planned, potential, deactivated), purpose, classification level, key interface(s)</div>																																																																																																															
<table><tr><th colspan="10">System Interface Matrix</th></tr><tr><th></th><th>System 1</th><th>System 2</th><th>System 3</th><th>System 4</th><th>System 5</th><th>System 6</th><th>System 7</th><th>System 8</th><th>System 9</th></tr><tr><th>System 1</th><td>*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><th>System 2</th><td>X</td><td>*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><th>System 3</th><td></td><td>X</td><td>*</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><th>System 4</th><td></td><td>X</td><td></td><td>*</td><td></td><td></td><td></td><td></td><td></td></tr><tr><th>System 5</th><td></td><td></td><td>X</td><td></td><td>*</td><td></td><td></td><td></td><td></td></tr><tr><th>System 6</th><td>X</td><td>X</td><td>X</td><td>P</td><td>P</td><td>*</td><td></td><td></td><td></td></tr><tr><th>System 7</th><td></td><td></td><td>X</td><td></td><td>P</td><td></td><td>*</td><td></td><td></td></tr><tr><th>System 8</th><td></td><td></td><td></td><td></td><td>R</td><td>R</td><td></td><td>*</td><td></td></tr><tr><th>System 9</th><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>*</td></tr></table> <div>X = Existing Interface P = Planned Interface R = Retire Interface</div>		System Interface Matrix											System 1	System 2	System 3	System 4	System 5	System 6	System 7	System 8	System 9	System 1	*									System 2	X	*								System 3		X	*							System 4		X		*						System 5			X		*					System 6	X	X	X	P	P	*				System 7			X		P		*			System 8					R	R		*		System 9	X								*
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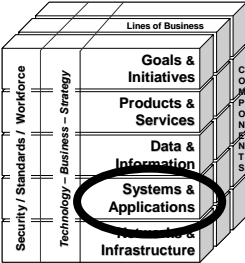
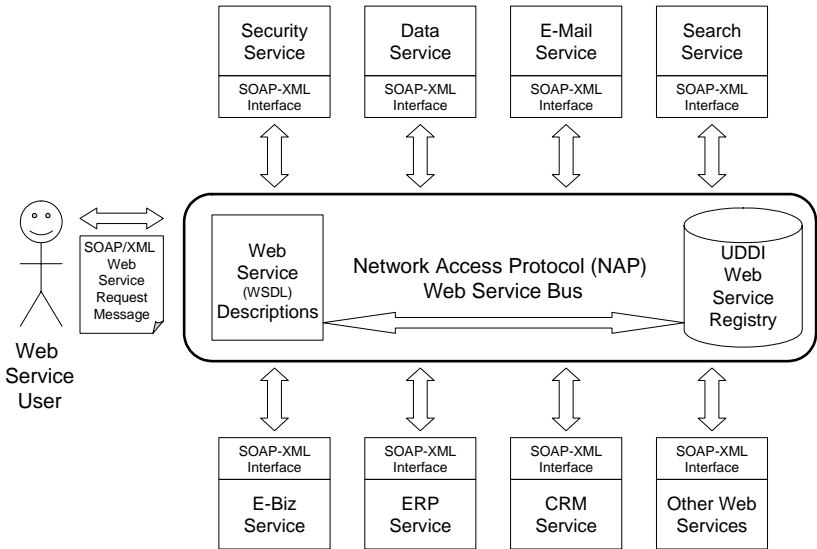
EA ³ Framework Area	Artifact # and Name
	<p>SA-4: System Data Flow Diagram</p> <p>The System Data Flow Diagram is better known as a ‘Data Flow Diagram’ and is intended to show the processes within a system that exchange data, and how those exchanges occur. The SA-4 artifact compliments the B-4 Business Process Diagram, and can be decomposed to show additional detail.</p>
Example	
<ol style="list-style-type: none"> 1. Captures and describes system functions and the data flows between them. 2. Documents system functional hierarchies. 3. Primary purpose is to: <ul style="list-style-type: none"> • Develop a clear description of the necessary system data flows that are input (consumed) and output (produced) by each system • Ensure functional connectivity is complete • Support appropriate level of functional decomposition for additional detail 4. Is the systems counterpart to the B-4 Business Process Model (IDEF-0 diagram). 	
	
Relationship to Other EA Frameworks	
FEAF: Application Level	FEA: SRM, DRM Zachman: C2/R3 DODAF: SV-4

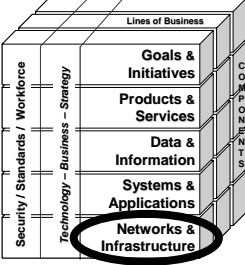
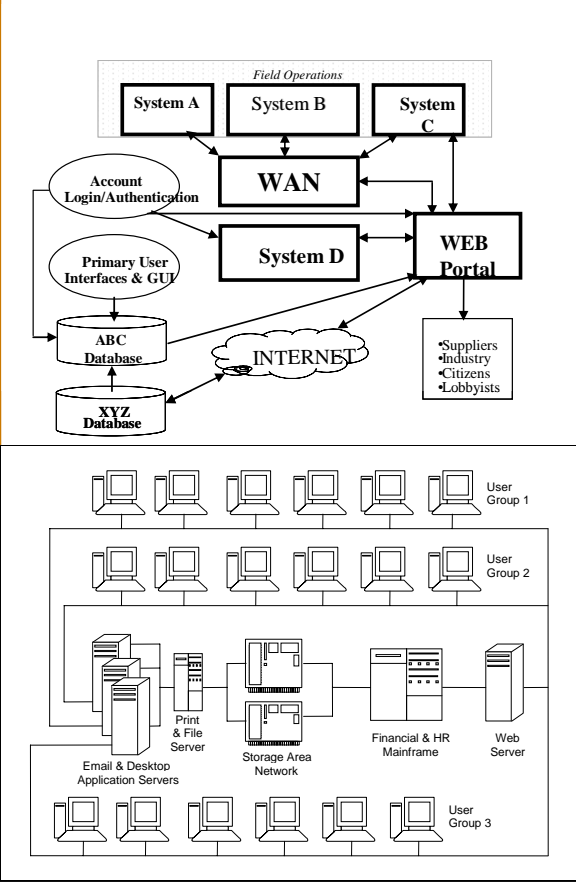
EA ³ Framework Area	Artifact # and Name				
	<h2>SA-5: System/Operations Matrix</h2> <p>The System/Operations Matrix relates operational activities to system functions within and between lines of business throughout the enterprise.</p>				
Example					
<ol style="list-style-type: none">Relates operational activities to system functionsIdentifies the transformation of an operational need into a purposeful action performed by a systemSupports decision making as follows:<ul style="list-style-type: none">Identify ‘stovepipe’ systems and opportunities for automationIdentify redundant systems and functionsAnalyze gaps in performanceTarget investment opportunities					
System / Operations Matrix					
Operational Activity	Call for Sales Data	Input Sales Data	Update Sales Data	Distribute Sales Data	Use Sales Data
System Function					
Load Sales Data Input Template	X				
Display Sales Data Input Template	X				
Load New Sales Database	X				
Receive New Sales Data		X			
Load Historical Sales Database			X		
Update New Sales Data Sub-Table			X		
Update Historical Sales Database			X		
Receive Sales Data Corrections		X			
Update Historical Sales Database			X		
Send New Sales Data				X	
Send Updated Historical Sales Data				X	
Receive New Sales Data Query					X
Send New Sales Data				X	X
Receive Historical Sales Data Query					X
Send Updated Historical Sales Data				X	X
Relationship to Other EA Frameworks					
FEAF: Application Level	FEA: BRM, SRM	Zachman: C2/R4	DODAF: SV-5		

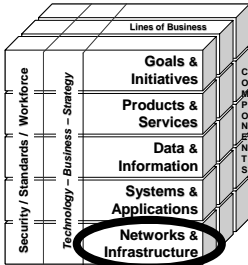
EA ³ Framework Area	Artifact # and Name																																																																																																												
	<h3>SA-6: System Data Exchange Matrix</h3> <p>The System Data Exchange Matrix uses a table format to show which systems exchange particular types of data within and between lines of business throughout the enterprise.</p>																																																																																																												
Description and Example																																																																																																													
<p>The System Data Exchange Matrix describes, in tabular format, data exchanges between systems within a systems node and across systems nodes. The focus of the System Data Exchange Matrix is on how the data exchanges actually are (or will be) implemented, in system-specific details covering such characteristics as specific protocols and data or media formats. These aspects of exchanges, while difficult to document, are critical to understanding the potential for overhead and security constraints introduced by the physical aspects of the implementation. The System Data Exchange Matrix relates to, and grows out of, the Information Exchange Matrix. That is, the automated portion(s) of each information exchange in the Information Exchange Matrix is associated with the system interface that carries the corresponding system data in the System Interface Description. The business characteristics for the information exchange are replaced with the corresponding system data exchange characteristics. For example, performance attributes for the business information exchanges are replaced by the actual system performance attributes for the automated portion(s) of the information exchange. Automation may introduce characteristics that are not intrinsic to the business information exchange.¹</p>																																																																																																													
<table><tr><th colspan="3" rowspan="2">Identification & Traceability</th><th colspan="5" rowspan="2">Nature of Transaction</th><th colspan="2">Source & Destination</th><th colspan="3" rowspan="2">Performance</th><th colspan="3" rowspan="2">Security</th></tr><tr><th>Source</th><th>Destination</th></tr><tr><th>Needline</th><th>System Interface</th><th>Information Exchange</th><th>Data Exchange</th><th>Data Element Name</th><th>Size</th><th>Format/Standard</th><th>Triggering Event</th><th>System</th><th>System Function</th><th>System</th><th>System Function</th><th>Frequency</th><th>Timeliness</th><th>Throughput</th><th>Classification</th><th>Priority</th><th>Services</th></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>		Identification & Traceability			Nature of Transaction					Source & Destination		Performance			Security			Source	Destination	Needline	System Interface	Information Exchange	Data Exchange	Data Element Name	Size	Format/Standard	Triggering Event	System	System Function	System	System Function	Frequency	Timeliness	Throughput	Classification	Priority	Services																																																																								
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FEAF: Application Level	FEA: SRM, TRM Zachman: C2/R3 DODAF: SV-6																																																																																																												

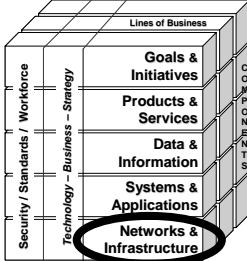
EA ³ Framework Area	Artifact # and Name			
	<h2>SA-7: System Performance Matrix</h2> <p>The System Performance Matrix lists the metrics that are important with regard to reliability, availability, and maintainability.</p>			
Example				
<ol style="list-style-type: none">Specifies the quantitative characteristics of system:<ul style="list-style-type: none">Hardware/softwareInterfacesCommunication componentsIdentifies both current and future parameters.Includes all relevant technical performance characteristics, for instance:<ul style="list-style-type: none">Mean Time Between FailureRestart RateSystem Initialization TimeData Transfer Rate				
System Performance Measures				
Measure Area	Type of Measure	Original Baseline	Current Status	Target
System Maintainability	Percentage	0.45	0.52	0.6
System Availability	Percentage	0.86	0.93	0.95
System Start-up (Initialization) Time	Seconds	32	23	15
System Restart (Re-boot) Time	Seconds	35	26	18
Hosted Application Start-up Time (>100 MB)	Seconds	28	26	25
Hosted Application Start-up Time (<100 MB)	Seconds	19	17	15
Data Throughput Capacity (# of input types)	Megabytes	100	250	500
Mean Time Between Hardware Failures	Days	68	69	90
Mean Time Between Software Failures	Days	12	14	20
System Settings Back-up Time	Minutes	22	21	18
System Data Back-up Time	Minutes	146	137	120
Email Outbox Transfer Rate (<1MB)	Seconds	12	11	10
Email Outbox Transfer Rate (<300KB)	Seconds	5	4	2
Relationship to Other EA Frameworks				
FEAF: Application Level	FEA: SRM, TRM	Zachman: C2/R3	DODAF: SV-7	

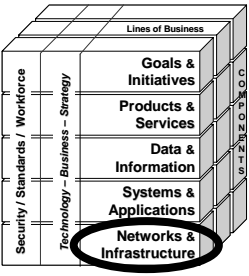

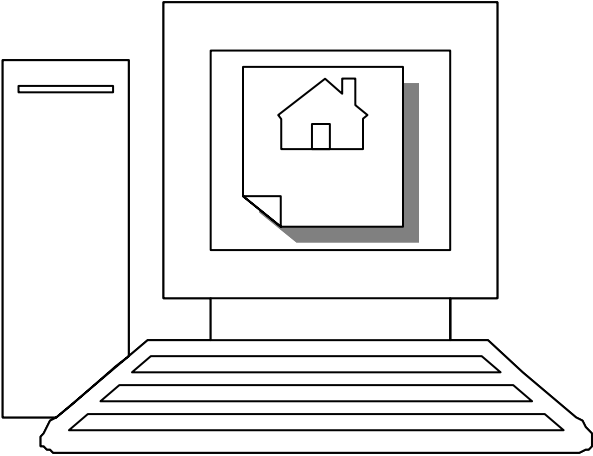
EA ³ Framework Area	Artifact # and Name
	<p data-bbox="732 426 1263 468">SA-8: System Evolution Diagram</p> <p data-bbox="695 489 1312 678">The System Evolution Diagram shows the evolution of a system including the relationship and timing of consolidations installations, upgrades, and retirements, sometimes shown in the context of changes to other systems, applications, websites, and databases.</p>
Example	
	
Relationship to Other EA Frameworks	
FEAF: Application Level	FEA: SRM, TRM Zachman: C2/R4 DODAF: SV-8

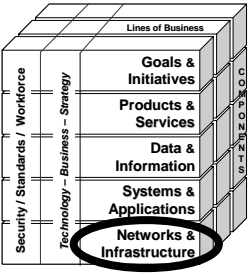
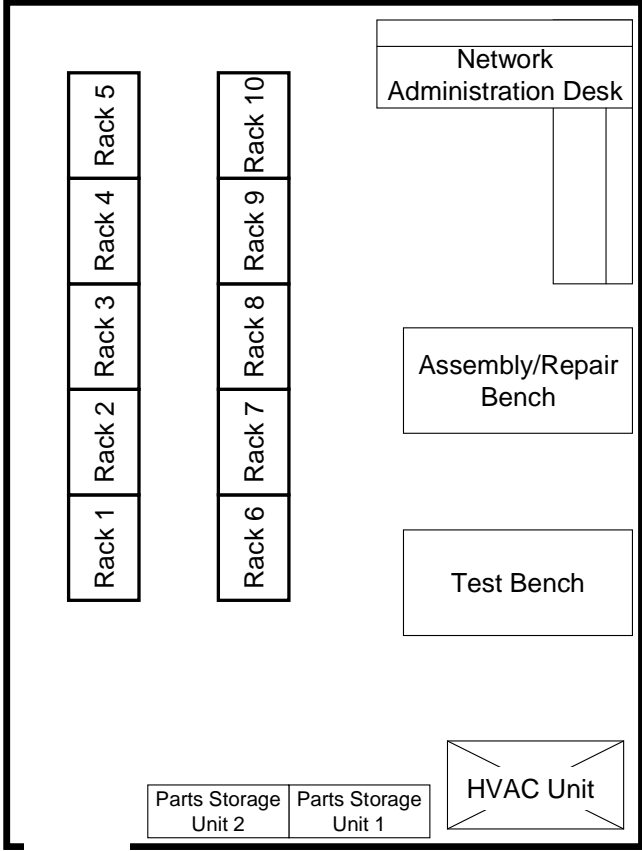
EA ³ Framework Area	Artifact # and Name
	<p data-bbox="735 407 1256 447">SA-9: Web Application Diagram</p> <p data-bbox="695 459 1302 657">The web application diagram shows the logical relationships between web-based information services, in this case showing a detailed diagram of services that interact via standard protocols and interfaces that promote platform-independent data interchanges.</p>
Example	
	
Relationship to Other EA Frameworks	
FEAF: Application Level	FEA: SRM, TRM Zachman: C2/R3 DODAF: SV-2

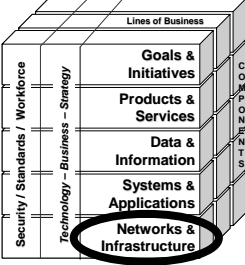
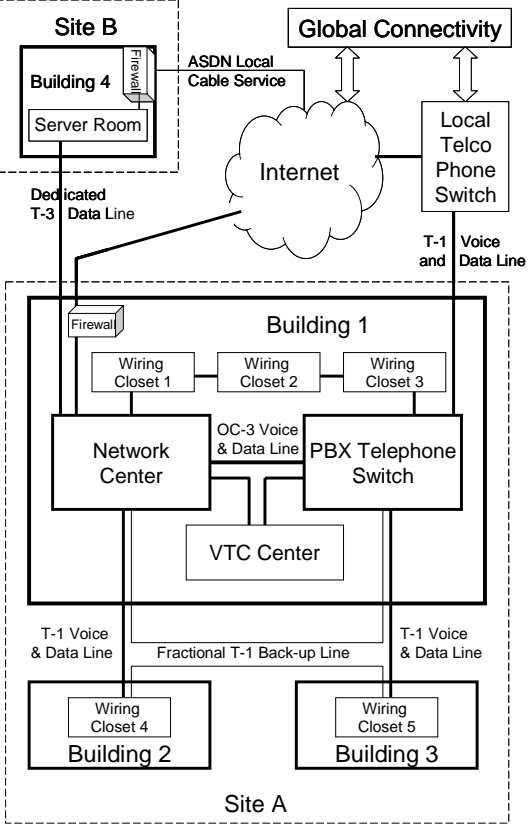
EA ³ Framework Area	Artifact # and Name
	<p>NI-1: Network Connectivity Diagram</p> <p>The Network Connectivity Diagram shows the physical connections between the enterprise's voice, data, and video network... including external Wide Area Networks (WANs) and Local Area Networks (LANs)... also called 'extranets' and 'intranets.'</p>
Example	
	
Relationship to Other EA Frameworks	
FEAF: Technology Level	FEA: TRM Zachman: C3/R5 DODAF: None

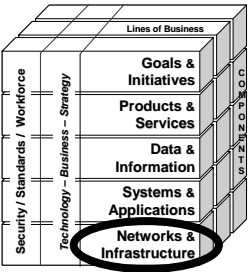
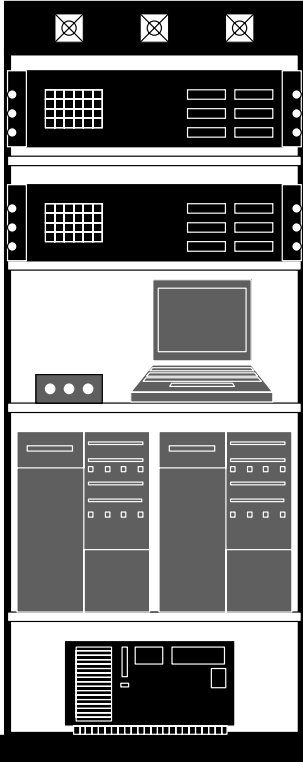
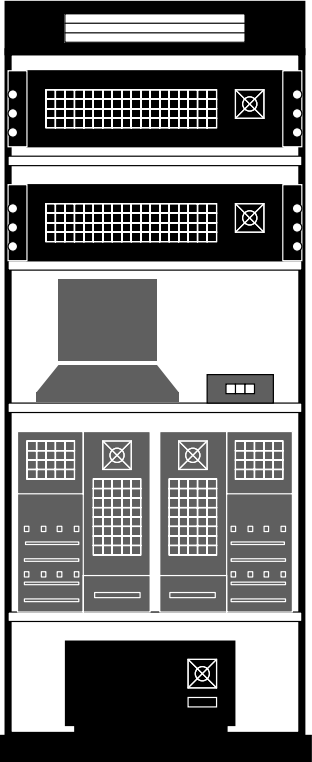
EA ³ Framework Area		Artifact # and Name																																																																																																																																																																																															
		<h2>NI-2: Network Inventory</h2> <p>The Network Inventory lists all of the hardware and software on the enterprise's voice, data, and video networks throughout the enterprise. The list may include bar code numbers or other unique identifiers.</p>																																																																																																																																																																																															
Example																																																																																																																																																																																																	
<table><tr><th colspan="5">DMC, Inc. Network Equipment Inventory</th></tr><tr><th>Description</th><th>Bar Code</th><th>Location</th><th>Vendor</th><th>Model #</th></tr><tr><td colspan="5">Data Network</td></tr><tr><td>100-Port Stackable Switch #1</td><td>DMC-620</td><td>Bldg 1</td><td>SMV</td><td>73G20</td></tr><tr><td>100-Port Stackable Switch #1</td><td>DMC-621</td><td>Bldg 1</td><td>SMV</td><td>73G20</td></tr><tr><td>100-Port Stackable Switch #1</td><td>DMC-622</td><td>Bldg2</td><td>SMV</td><td>73G20</td></tr><tr><td>100-Port Stackable Switch #1</td><td>DMC-623</td><td>Bldg3</td><td>SMV</td><td>73G20</td></tr><tr><td>100-Port Stackable Switch #1</td><td>DMC-624</td><td>Bldg 3</td><td>SMV</td><td>73G20</td></tr><tr><td>100-Port Stackable Switch #1</td><td>DMC-625</td><td>Bldg 4</td><td>SMV</td><td>73G20</td></tr><tr><td>100-Port Stackable Switch #1</td><td>DMC-626</td><td>Bldg 4</td><td>SMV</td><td>73G20</td></tr><tr><td>50-Port ATM/Gigabyte Router</td><td>DMC-611</td><td>Bldg 1</td><td>Hamre</td><td>H7500</td></tr><tr><td>50-Port ATM/Gigabyte Router</td><td>DMC-612</td><td>Bldg 2</td><td>Hamre</td><td>H7500</td></tr><tr><td>50-Port ATM/Gigabyte Router</td><td>DMC-613</td><td>Bldg 3</td><td>Hamre</td><td>H7500</td></tr><tr><td>50-Port ATM/Gigabyte Router</td><td>DMC-614</td><td>Bldg 4</td><td>Hamre</td><td>H7500</td></tr><tr><td>Application Server #1</td><td>DMC-616</td><td>Bldg 1</td><td>Kayprime</td><td>K455</td></tr><tr><td>Application Server #2</td><td>DMC-617</td><td>Bldg 1</td><td>Kayprime</td><td>K455</td></tr><tr><td>Application Server #3</td><td>DMC-618</td><td>Bldg 1</td><td>Kayprime</td><td>K455</td></tr><tr><td>Print Server #1</td><td>DMC-603</td><td>Bldg 1</td><td>Kayprime</td><td>K430</td></tr><tr><td>Print Server #2</td><td>DMC-604</td><td>Bldg 3</td><td>Kayprime</td><td>K430</td></tr><tr><td>Web Server #1</td><td>DMC-605</td><td>Bldg 1</td><td>Kayprime</td><td>K502</td></tr><tr><td>Web Server #2</td><td>DMC-606</td><td>Bldg 3</td><td>Kayprime</td><td>K502</td></tr><tr><td>Internet Firewall</td><td>DMC-610</td><td>Bldg 1</td><td>Gladiator</td><td>3000</td></tr><tr><td>Color Network Printer</td><td>DMC-370</td><td>Bldg 1</td><td>HG</td><td>755</td></tr><tr><td>B/W Network Printer #1</td><td>DMC-375</td><td>Bldg 2</td><td>HG</td><td>380G</td></tr><tr><td>B/W Network Printer #2</td><td>DMC-375</td><td>Bldg 3</td><td>HG</td><td>380G</td></tr><tr><td>B/W Network Printer #3</td><td>DMC-375</td><td>Bldg 4</td><td>HG</td><td>380G</td></tr><tr><td>B/W Network Printer #4</td><td>DMC-375</td><td>Bldg 5</td><td>HG</td><td>380G</td></tr><tr><td colspan="5">Telecommunications Network</td></tr><tr><td>Master PBX Switch</td><td>DMC-801</td><td>Bldg 1</td><td>Westcom</td><td>W9000</td></tr><tr><td>PBX 100-Line Node Controller</td><td>DMC-802</td><td>Bldg 1</td><td>Westcom</td><td>W9002</td></tr><tr><td>PBX 100-Line Node Controller</td><td>DMC-803</td><td>Bldg 2</td><td>Westcom</td><td>W9002</td></tr><tr><td>PBX 100-Line Node Controller</td><td>DMC-804</td><td>Bldg 3</td><td>Westcom</td><td>W9002</td></tr><tr><td>PBX 100-Line Node Controller</td><td>DMC-805</td><td>Bldg 4</td><td>Westcom</td><td>W9002</td></tr><tr><td>VOIP Interface Unit</td><td>DMC-807</td><td>Bldg 1</td><td>Westcom</td><td>W1380</td></tr><tr><td>GreenBerry Cell Phone Unit</td><td>DMC-808</td><td>Bldg 1</td><td>Greenberry</td><td>KJ1700</td></tr><tr><td colspan="5">Video Network</td></tr><tr><td>VTC Roll-Around Unit #1</td><td>DMC-960</td><td>Bldg 1</td><td>ClearTel</td><td>CT1800</td></tr><tr><td>VTC Network Interface Box</td><td>DMC-961</td><td>Bldg 1</td><td>ClearTel</td><td>CT739</td></tr></table>				DMC, Inc. 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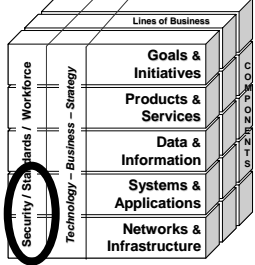
EA ³ Framework Area	Artifact # and Name																																																																																																																																		
	<h2>NI-3: Capital Equipment Inventory</h2> <p>The Capital Equipment Inventory lists all of the non-information technology capital (depreciable) equipment in each line of business throughout the enterprise. The list may include bar code numbers or other unique identifiers.</p>																																																																																																																																		
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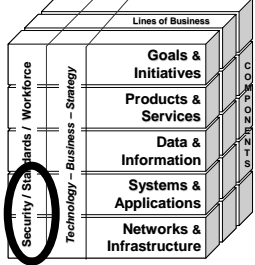
EA ³ Framework Area	Artifact # and Name
	<p data-bbox="792 426 1203 468">NI-4: Building Blueprints</p> <p data-bbox="695 489 1302 688">The NI-4 artifact is a full set of electronic blueprints for all of the physical buildings and rooms throughout the enterprise. The blueprints aid in planning and decision-making regarding the placement of workspaces, production facilities, warehouses, networks and other business functions.</p>
<div data-bbox="399 835 656 1104">  </div> <div data-bbox="630 1087 1219 1539">  </div> <p data-bbox="724 1549 1154 1602">Electronic Blueprints</p>	
Relationship to Other EA Frameworks	
FEAF: None	FEA: None Zachman: None DODAF: None

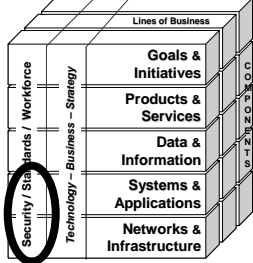
EA ³ Framework Area	Artifact # and Name
	<p>NI-5: Network Center Diagram</p> <p>The NI-5 artifact is an overhead diagram of the information technology network center. This diagram can be part of the NI-4 set of blueprints, and is maintained electronically to support the numerous changes to network center(s) and server rooms that can be expected over a number of years.</p>
Example	
	
Relationship to Other EA Frameworks	
FEAF: None	FEA: None Zachman: None DODAF: None

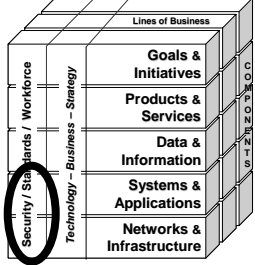
EA ³ Framework Area	Artifact # and Name
	<p data-bbox="781 415 1211 453">NI-6: Cable Plant Diagram</p> <p data-bbox="695 464 1302 695">The Cable Plant Diagram shows physical connectivity between voice/data/video networks throughout the enterprise and to global suppliers. The diagram should show the types of cable (fiber, CAT-6, etc.) and the bandwidth (T-1, OC-3, etc.) of each cable run between network centers, server rooms, wiring closets, and external connections.</p>
Example	
	
Relationship to Other EA Frameworks	
FEAF: None	FEA: None Zachman: C3/R5 DODAF: None

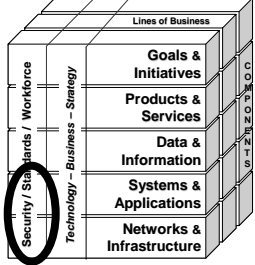
EA ³ Framework Area	Artifact # and Name
	<p>NI-7: Rack Elevation Diagram</p> <p>This diagram provides a front and rear view of each of the information technology equipment racks that go into a network center, server room, and/or wiring closet. This diagram supports the NI-5 and NI-6 diagrams and is maintained electronically to support the numerous changes that can be expected over a number of years.</p>
Example	
<div> <div>Overhead Fan</div> <div>50-Port Switch #1</div> <div>50-Port Switch #2</div> <div>KVA Switch Administrator's Laptop</div> <div>File Servers (Cluster A&B)</div> <div>Surge Protector and Battery Unit</div> </div> <div>  </div> <div>Rack 1 - Front</div>	
<div>  </div> <div>Rack 1 - BACK</div>	
Relationship to Other EA Frameworks	
FEAF: None	FEA: None Zachman: None DODAF: None

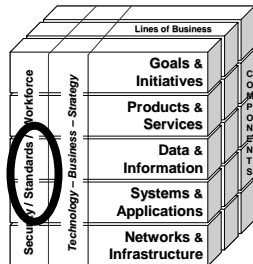
EA ³ Framework Area	Artifact # and Name
	<p style="text-align: center;">SP-1: Security Plan</p> <p>The Security Plan provides both high-level and detailed descriptions of the security program that is in effect throughout the enterprise. This includes physical, data, personnel, and operational security elements and procedures. Chapter 11 provides additional detail on Security Plans.</p>
Example Outline	
	<ol style="list-style-type: none"> 1. Introduction <ul style="list-style-type: none"> Purpose of the IT Security Program Principles of IT Security Critical Success Factors Intended Outcomes Performance Measures 2. Policy <ul style="list-style-type: none"> Executive Guidance Technical Guidance Applicable Law and Regulations Standards 3. Reporting Requirements <ul style="list-style-type: none"> IT Security Program Roles and Responsibilities IT Security Program Schedule and Milestones IT Security Incident Reporting 4. Concept of Operations <ul style="list-style-type: none"> IT Security Threat Summary IT Security Risk Mitigation Integration with Enterprise Architecture Component/System Security Plans 5. Security Program Elements <ul style="list-style-type: none"> Information Security Personnel Security Operational Security Physical Security 6. Standard Operating Procedures <ul style="list-style-type: none"> Test and Evaluation Risk Assessment Certification and Accreditation Disaster Recovery/Continuity of Operations Records Protection and Archiving Data Privacy
Relationship to Other EA Frameworks	
FEAF: None	FEA: SPP Zachman: C4/R5 DODAF: None

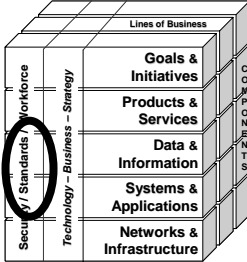
EA ³ Framework Area	Artifact # and Name				
	<p>SP-2: Security Solutions Descriptions</p> <p>The Security Solutions Description provides a high-level view of how security is provided for selected resources throughout the enterprise. The solutions cover four dimensions of security: physical, data, personnel, and operations and may include diagrams or matrices.</p>				
Example Outline					
<table border="1"> <tr> <td data-bbox="483 772 833 1224"> <p>Operational Security</p> <p>In the area of operational security, the Security Program should promote the development of standard operating procedures (SOPs) for all EA components that support line of business operations. SOPs should also be developed for recovery from major outages or natural disasters, and for enabling the continuity of operations if all or part of the enterprise becomes disabled.</p> </td><td data-bbox="833 772 1174 1224"> <p>Data Security</p> <p>In the area of information security, the Security Program should promote security-conscious designs, information content assurance, source authentication, and data access control. The assessment of types of data being handled for privacy protection concerns should also be done (e.g. customer credit data or employee SSNs).</p> </td></tr> <tr> <td data-bbox="483 1224 833 1602"> <p>Personnel Security</p> <p>In the area of personnel security, the Security Program should promote user authentication and IT security awareness, and new user/recurring training. badges, biometrics, card swipe units, cipher locks, and other methods of combining personnel and physical security solutions should be implemented.</p> </td><td data-bbox="833 1224 1174 1602"> <p>Physical Security</p> <p>The elements of physical security that should be captured in the EA include protection for the facilities that support IT processing, control of access to IT equipment, networks, and telecommunications rooms, as well as fire protection, media storage, and disaster recovery systems.</p> </td></tr> </table>		<p>Operational Security</p> <p>In the area of operational security, the Security Program should promote the development of standard operating procedures (SOPs) for all EA components that support line of business operations. SOPs should also be developed for recovery from major outages or natural disasters, and for enabling the continuity of operations if all or part of the enterprise becomes disabled.</p>	<p>Data Security</p> <p>In the area of information security, the Security Program should promote security-conscious designs, information content assurance, source authentication, and data access control. The assessment of types of data being handled for privacy protection concerns should also be done (e.g. customer credit data or employee SSNs).</p>	<p>Personnel Security</p> <p>In the area of personnel security, the Security Program should promote user authentication and IT security awareness, and new user/recurring training. badges, biometrics, card swipe units, cipher locks, and other methods of combining personnel and physical security solutions should be implemented.</p>	<p>Physical Security</p> <p>The elements of physical security that should be captured in the EA include protection for the facilities that support IT processing, control of access to IT equipment, networks, and telecommunications rooms, as well as fire protection, media storage, and disaster recovery systems.</p>
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Relationship to Other EA Frameworks					
FEAF: None	FEA: SPP Zachman: C4/R5 DODAF: None				

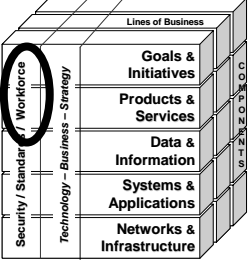
EA ³ Framework Area	Artifact # and Name
	<p data-bbox="776 415 1218 493" style="text-align: center;">SP-3: System Accreditation Document</p> <p data-bbox="695 514 1302 676">The System Accreditation Document uses a standard format for evaluating the security status of information systems throughout the enterprise. There are a number of parts to a system security accreditation as are illustrated in the example.</p>
Example Outline	
<p data-bbox="386 787 1286 907">1. <u>System Security Plan</u>. This opening section of the System Accreditation Document provides an overview of the business context that the information system operates in, states the current security status of the system (last accreditation), and summarizes the contents and finding of the other accreditation documents.</p> <p data-bbox="386 940 1295 1150">2. <u>System Risk Assessment</u>. This section of the document uses a standardized format for showing areas of risk to the information system in the four primary areas security threat areas that are covered in artifact SP-2; physical, data, operational, and personnel. Assigns a level of risk based on the business context for system operations and the type of system data to be protected. Provides security risk remediation strategies (how to avoid a security risk, or deal with it if a problem occurs) for each area of risk that is identified.</p> <p data-bbox="386 1176 1291 1360">3. <u>System Test and Evaluation</u>. Also called a system ‘penetration test.’ The System Test and Evaluation (ST&E) section of the document provides the results of a live test that attempts to enter the system through other-than-normal log-in procedures, as well as attempts to overwhelm the system (denial of service attack), or infect the system with an active virus, worm, or other type of problematic element that reduces or eliminates information system functionality.</p> <p data-bbox="386 1386 1279 1444">4. <u>Remediation Plan</u>. This section of the document provides the status of corrective actions taken to fix all of the security risks found during the risk assessment/ST&E.</p> <p data-bbox="386 1470 1286 1558">5. <u>Approval to Operate</u>. This section of the document is the formal (signed) approval to operate the information system that is provided by the designated person in the enterprise (usually the Chief Information Officer or the IT Security Manager).</p>	
Relationship to Other EA Frameworks	
FEAF: None	FEA: SPP Zachman: C4/R5 DODAF: None

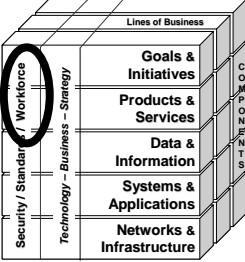
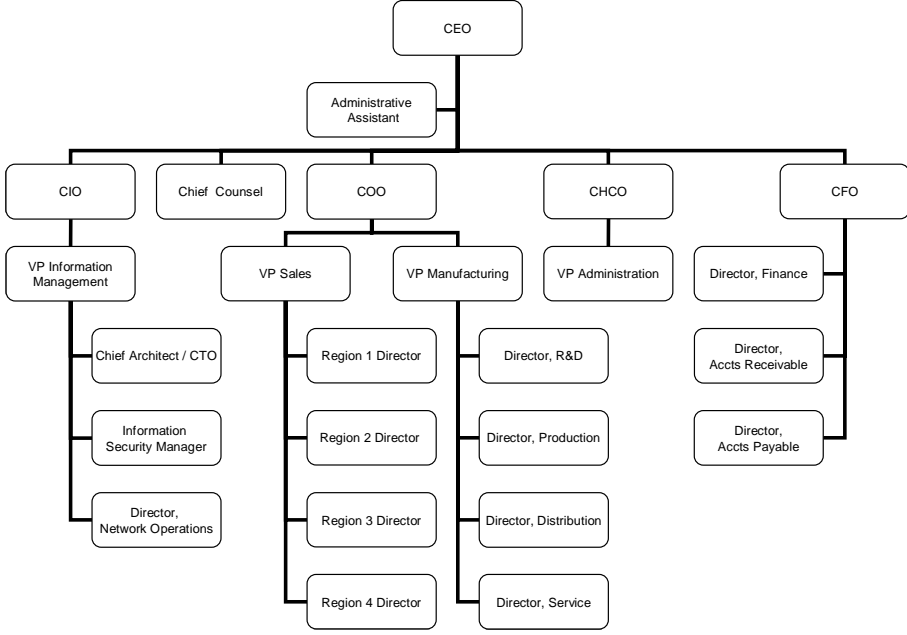
EA ³ Framework Area	Artifact # and Name
	<p>SP-4: Continuity of Operations Plan</p> <p>The Continuity of Operations Plan (COOP) uses a standard format for describing where all or part of the enterprise will relocate to if the normal operating location cannot be occupied for an extended period (more than a few days) due to a natural or man-made event.</p>
Example Contents	
<p>The activation of the COOP relocation site may have to be accomplished in the midst of a local or national disaster that makes clarity, brevity, completeness, and flexibility (backups) key to success. The following are some of the recommended elements in a COOP document:</p> <ol style="list-style-type: none"> 1. <u>COOP Activation</u>. Conditions for Activating the COOP. 2. <u>COOP Roles and Responsibilities</u>. A matrix of the roles and responsibilities (by position) of all personnel throughout the enterprise who are involved in activating the COOP. Alternates are provided for each position. 3. <u>COOP Checklist</u>. A step-by-step checklist of actions for each person participating in the COOP. 4. <u>COOP Relocation Site Map and Directions</u>. How to get to the COOP site from various probable routes. 5. <u>COOP Relocation Site Activation</u>. The process for activating the COOP site, establishing internal/external communications, and reconstituting key enterprise functions at the COOP site. 6. <u>COOP Relocation Site Inventory</u>. An inventory of systems, equipment, and supplies at the COOP relocation site, along with the person(s) responsible for ensuring that the systems are operational and the equipment is present when needed. 7. <u>COOP Relocation Site De-Activation</u>. Procedures for de-activating the COOP site and restoring it to a 'ready status' after a real relocation event or training exercise. 	
Enterprise Functions <u>Have to Relocate</u>	
Relationship to Other EA Frameworks	
FEAF: None	FEA: SPP Zachman: C4/R5 DODAF: None

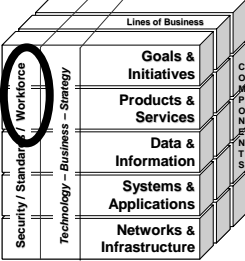

EA ³ Framework Area	Artifact # and Name
	<p data-bbox="764 415 1230 447">SP-5: Disaster Recovery Plan</p> <p data-bbox="695 468 1302 667">The Disaster Recovery Plan is an assessment matrix and set of procedures to handle outages in various business and/or technology capabilities that do not require the enterprise to relocate its operations. Outages can be caused by natural or man-made events (e.g. fire, flood, power outage).</p>
Example Contents	
<p data-bbox="386 783 1253 898">The activation of the Disaster Recovery Plan may have to be accomplished in the midst of a natural or man-made disaster that makes clarity, brevity, completeness, and flexibility (backups) key to success. The following are some of the recommended elements in a Disaster Recovery Plan:</p> <ol data-bbox="386 919 1302 1518" style="list-style-type: none"> <li data-bbox="386 919 1149 951">1. <u>Disaster Recovery Activation</u>. Conditions for Activating the COOP. <li data-bbox="386 972 1302 1056">2. <u>Recovery Roles and Responsibilities</u>. A matrix of the roles and responsibilities (by position) of all personnel throughout the enterprise who are involved in activating the COOP. Alternates are provided for each position. <li data-bbox="386 1077 1279 1192">3. <u>Disaster Impact and Recovery Assessment</u>. A standard matrix for assessing the type and duration of the outage, as well as the systems and functions throughout the enterprise that are affected. Depending on the type of outage and the projected period of outage (minutes, hours, days), the recovery procedure may differ. <li data-bbox="386 1213 1291 1518">4. <u>Recovery Procedures</u>. The procedures that are used to restore the business and/or system functions that have been disrupted. Examples include: <ul data-bbox="435 1287 1084 1518" style="list-style-type: none"> <li data-bbox="435 1287 670 1318">• Electrical Outage <li data-bbox="435 1329 841 1360">• Air Conditioning/Heating Outage <li data-bbox="435 1371 946 1402">• Building Damage (Fire, Flood, Earthquake) <li data-bbox="435 1413 922 1444">• Room Damage (Fire, Flood, Earthquake) <li data-bbox="435 1455 922 1486">• Virus Infection of Information System(s) <li data-bbox="435 1497 1027 1518">• Loss of Internal or External Data Communications <li data-bbox="435 1518 1084 1539">• Loss of Internal or External Telephone Communications 	
Enterprise Functions <u>Do Not</u> Relocate	
Relationship to Other EA Frameworks	
FEAF: None	FEA: SPP Zachman: C4/R5 DODAF: None

EA ³ Framework Area		Artifact # and Name				
		<h2>ST-1: Technology Standards Profile</h2> <p>The Technology Standards Profile is a listing of business services and associated technologies that are accepted by the enterprise as being a primary or secondary standard. Further detail can be added regarding particular types of standards (e.g. data, telecommunications) and vendor products.</p>				
Example						
Technical Standards Profile						
Item Description	International Standard 1	International Standard 2	National Standard	Local Standard	Standard Product	Alternative Product
Information Systems Hardware						
Network Router	ISO 802.1	CEN 7102	NIST 400-1		Sasco 7300	IronBox 300H
Network Server	ISO 802.1	CEN 7102	NIST 400-1		Gell 2000	CowBox 710
Network Printer	ISO 802.1	CEN 7102	NIST 400-1		Micop 85	HV 550
Desktop PC	ISO 802.1	CEN 7102	NIST 400-1		Gell 1650	CowBox 200
Information Systems Software						
Server Operating System	ISO 802.1	CEN 7102	NIST 400-1		MacroSwift OS	BlueCap Linux
Desktop Operating System	ISO 802.1	CEN 7102	NIST 400-1		MacroSwift OS	Linux Desktop
Desktop Office Automation Suite	ISO 802.1	CEN 7102	NIST 400-1		MacroSwift SuitePro	Kona Big Suite
Computer Aided Design	ISO 802.1	CEN 7102	NIST 400-1		Grafex CAD	MacroCAD
Telecommunications System Hardware						
PBX Central Switch	ISO 877.1F	CEN 7306	IEEE T735	Verizo 679	Westel 7200	BlamoTel 80X
PBX Central Switch	ISO 877.1F	CEN 7306	IEEE T735	Verizo 679	Westel 7202	BlamoTel 83B
Desk Telephone	ISO 877.1F	CEN 7306	IEEE T735	Verizo 679	Westel 58J	BlamoTel 10J
Telecommunications System Software						
PBX Switching Controller	ISO 877.1F	CEN 7306	IEEE T735	Verizo 679	Westel PBX Max	Blamo PBX
VOIP Interface	ISO 877.1F	CEN 7306	IEEE T735	Verizo 679	Westel VOIP Max	Blamo VOIP
Video Conferencing System Hardware						
Roll-Around VTC Unit	ISO 478.3		IEEE A845		PhotoVox 1300	Humbel 850
Desktop VTC Unit	ISO 478.3		IEEE A845		PhotoVox 350	PictureHi 75G
VTC Multiplexer & Control Box	ISO 478.3		IEEE A845		PhotoVox M46	
Video Conferencing System Software						
Desktop Video Conferencing	ISO 478.3		IEEE A845		MacroSwift Meet	
Relationship to Other EA Frameworks						
FEAF: Technology	FEA: TRM	Zachman: C3/R4	DODAF: TV-1			

EA ³ Framework Area	Artifact # and Name																																
	<h2>ST-2: Technology Forecast</h2> <p>The Technology Forecast supports and relates to the ST-1 Technology Standards Profile. The Technology Forecast documents expected changes in any of the standards listed in the ST-1 artifact, where future changes appear to be happening or about to happen.</p>																																
Example																																	
<ul style="list-style-type: none">• Captures expected changes in technology related standards and conventions• Identifies critical technology standards, their fragility, and impact of changes to the architecture• Contains specific predictions about the availability of emerging standards, and relates to specific System/Application (SA) framework elements																																	
<table><tr><th colspan="4">Technology Forecast</th></tr><tr><th>Forecast Area</th><th>Short Term (Next 12 Months)</th><th>Mid-Term (12-24 Months)</th><th>Long Term (2-3 Years Away)</th></tr><tr><td>Operating Systems</td><td>Macrovox GT basic Operating System will be supported until late 2007</td><td>Macrovox GT-2 will be launched in early 2006</td><td>Linux is gaining in capability and reliability, should consider migration to Linux in mid 2006 as an alternative to Macrovox GT upgrade.</td></tr><tr><td>Office Automation Suite</td><td>Kona Big Suite upgrade finished in early 2005</td><td>Kona Big Suite II is due out in late 2006, will provide xml data exchange between applications and a bundled graphics and photo editor.</td><td>Kona Project X is going to incorporate a database application</td></tr><tr><td>Desktop PCs</td><td>Gell 2000 became standard in 2004, is installed on 70% of desktops; will be 100% in mid-2005.</td><td>Gell 2000 units will remain</td><td>Conduct vendor fly off in early 2006 based on updated application and performance requirements</td></tr><tr><td>Desktop Monitors</td><td>15" Color CRTs being replaced by 21" Color LCDs as Desktops are replaced; 100% in mid 2005</td><td>LCD units will remain</td><td>Conduct vendor fly off in early 2006 based on desktop PC compatibility and user requirements</td></tr><tr><td>Persistent Storage</td><td>5 Gigabyte PCMCIA type 2 card available</td><td>10GB card expected</td><td>40+GB cards</td></tr><tr><td>Personal Digital Assistants</td><td>Executive level only - Greenberry X400</td><td>Office Directors also get Greenberry X400s</td><td>Conduct vendor fly off in early 2006 based on updated application and performance requirements</td></tr></table>		Technology Forecast				Forecast Area	Short Term (Next 12 Months)	Mid-Term (12-24 Months)	Long Term (2-3 Years Away)	Operating Systems	Macrovox GT basic Operating System will be supported until late 2007	Macrovox GT-2 will be launched in early 2006	Linux is gaining in capability and reliability, should consider migration to Linux in mid 2006 as an alternative to Macrovox GT upgrade.	Office Automation Suite	Kona Big Suite upgrade finished in early 2005	Kona Big Suite II is due out in late 2006, will provide xml data exchange between applications and a bundled graphics and photo editor.	Kona Project X is going to incorporate a database application	Desktop PCs	Gell 2000 became standard in 2004, is installed on 70% of desktops; will be 100% in mid-2005.	Gell 2000 units will remain	Conduct vendor fly off in early 2006 based on updated application and performance requirements	Desktop Monitors	15" Color CRTs being replaced by 21" Color LCDs as Desktops are replaced; 100% in mid 2005	LCD units will remain	Conduct vendor fly off in early 2006 based on desktop PC compatibility and user requirements	Persistent Storage	5 Gigabyte PCMCIA type 2 card available	10GB card expected	40+GB cards	Personal Digital Assistants	Executive level only - Greenberry X400	Office Directors also get Greenberry X400s	Conduct vendor fly off in early 2006 based on updated application and performance requirements
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Relationship to Other EA Frameworks																																	
FEAF: Technology	FEA: TRM Zachman: C3/R4 DODAF: TV-2, SV-9																																

EA ³ Framework Area	Artifact # and Name
	<p style="text-align: center;">W-1: Workforce Plan</p> <p>The Workforce Plan provides a high-level description of how human capital is managed throughout the enterprise. The Workforce Plan includes strategies for hiring, retention, and professional development at the executive, management, and staff levels of the enterprise. .</p>
Example	
<p><u>Workforce Plan Outline</u></p> <ul style="list-style-type: none"> • Summary of Human Capital Management Strategy • Line of Business Requirements • Executive Level Competencies and Professional Development Plans • Management Level Competencies and Professional Development Plans <ul style="list-style-type: none"> ○ Line of Business A ○ Line of Business B ○ Line of Business C ○ Line of Business D • Staff Level Competencies and Professional Development Plans <ul style="list-style-type: none"> ○ Line of Business A ○ Line of Business B ○ Line of Business C ○ Line of Business D • Performance Review Process • Benefits Program • Training and Tuition Assistance Program 	
Relationship to Other EA Frameworks	
FEAF: None	FEA: None Zachman: C4/R1 DODAF: None

EA ³ Framework Area	Artifact # and Name
	<p data-bbox="792 415 1203 457">W-2: Organization Chart</p> <p data-bbox="695 468 1302 636">The Organization Chart shows how positions and personnel are organized in hierarchical diagrams or matrix formats. Organization Charts help to show lines of authority, working relationships, as well as ownership of resources, products, and processes.</p>
Example	
	
Relationship to Other EA Frameworks	
FEAF: None	FEA: None Zachman: C4/R2 DODAF: OV-4

EA ³ Framework Area	Artifact # and Name
	<p>W-3: Knowledge & Skills Profile</p> <p>The Knowledge and Skills Profile provides a detailed inventory of what a person should know and be able to do in a particular position within the enterprise. The example provided is a “Knowledge, Skills, and Abilities” List for Enterprise Architects developed by Carnegie Mellon University in 2004.</p>
Example	
Carnegie Mellon University 	Institute for Software Research International <small>Enterprise Architecture Education Standards - Copyright CMU/ISRI - 2004 Developed by Dr. Scott A. Bernard</small>
Enterprise Architecture Education Standards ©	<div>Junior Architect</div> <div>Mid-Level Architect</div> <div>Senior Architect</div> <div>Notes</div>
Knowledge and Skill Areas (KSAs)	<div>EA Apprentice (0-2 Years)</div> <div>EA Journeyman (3-5 Years)</div> <div>EA Master (5+ Years)</div>
1.0 EA Practice and Theory	
1.1 Governance: Planning and Decision-Making	
1.2 Organizational Theory: Culture and Communication	
1.3 The Information Age: Driver of Architectures	
1.4 Enterprise Architecture Frameworks	
1.5 Architecture Implementation Methodologies	
1.6 Enterprise Architecture Critical Success Factors	
1.7 Architecture Use in Planning/Decision-Making	
1.8 Architecture Maturity Evaluation	
2.0 EA Documentation	
2.1 Strategic Goals, Initiatives, and Plans	
2.2 Business Sub-Architecture	
2.3 Information and Data Sub-Architecture	
2.4 Service Sub-Architecture	
2.5 Systems Sub-Architecture	
2.6 Technology Sub-Architecture	
2.7 Security Sub-Architecture	
2.8 Architecture Standards and Artifact Types	
3.0 EA Implementation	
3.1 EA Program and Project Establishment	
3.2 EA Requirements and Scope	
3.3 EA Framework and Methodology Selection	
3.4 EA Tool and Repository Selection	
3.5 Documenting the Current Architecture	
3.6 Documenting the Future Architecture	
3.7 Architecture Transition Management	
3.8 Architecture Configuration Management	
4.0 EA Project & Program Management	
4.1 EA Project and Program Management Basics	
4.2 Requirements Determination	
4.3 Project and Program Schedules	
4.4 Project and Program Budgets	
4.5 Alternatives Analysis	
4.6 Managing Risk	
4.7 Earned Value Management	
4.8 EA Team Development	
Relationship to Other EA Frameworks	
FEAF: None	FEA: None Zachman: C4/R3 DODAF: OV-4