

NCOICTM's Network Centric Analysis Tool (NCATTM) Overview & Tutorial Demonstration

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Chair – NCA Content WG**

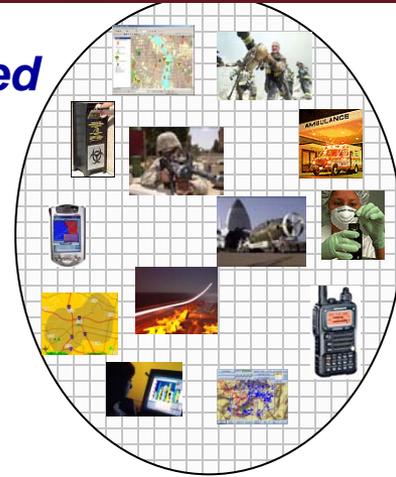
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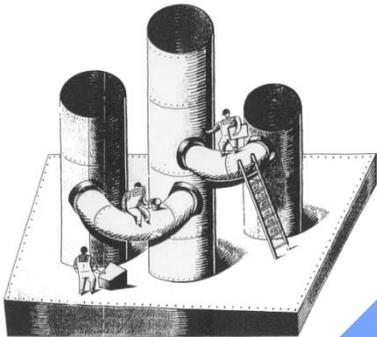


**Net-Enabled
Future**



ncoic™

**Stove-piped
Systems,
Point-to-Point
Networks**



Network Centric Operations Industry Consortium



NCOIC is a Unique Organization

NCOIC exists to facilitate the global realization of Network Centric Operations/Net Enabled Capability. We seek to enable interoperability across joint, interagency, intergovernmental, and multinational industrial and commercial operations.

- Global Organization
- Voice of industry
- Cadre of technical experts
- Dedicated to interoperability
- Advisory Council of senior advisors who help prioritize our work in a non-competitive environment



In the photo: BrigGen Dieter Dammjacob (DEU AF)-J3 NATO Supreme Headquarters, Allied Powers Europe; Lt.Col. Danut Tiganus-CIS Directorate, EU Military Staff; Dr. Tom Buckman-NC3A Chief Architect; Gen Harald Kujat,-German AF (Ret.) former Chief of Staff of German Armed Forces & head of NATO Military Committee, Marcel Staicu-European Defense Agency NEC Project Officer .

NCOIC Members

- **80+ Member Organizations** including leading IT and Aerospace & Defense companies, government organizations, non-governmental organizations and academic institutions
- **Members from 18 Countries**
- **Advisors from 26 key stakeholders** from Australia, EDA, France, Germany, Italy, NATO, The Netherlands, Sweden, UK and US



Working Group collaboration



Technical Council



Terry Morgan honors outgoing Advisory Council Chair, Keith Hall



Executive and Advisory Council joint meeting

Collaboration

- NCOIC facilitates interoperability by collaboration
 - Member organizations & Advisory Council
 - Our member's customers
 - Agencies of global governments
 - Other NCO stakeholders
- Collaboration occurs through
 - Invited Review of developing documents & architectures
 - Joint demonstrations and white papers
 - Joint and hosted forums, symposia and workshops
 - Joint technical development with stakeholders
 - LOI, LOA, MOU, CRADA and other agreements



Photo and screen captures from member lab interoperability demonstration, Rome, May 2010

NCOIC provides guidance for network centric standards and their patterns of use.

Global Stakeholders



Members develop a SCOPE workshop for Australian Department of Defence with Rapid Prototyping Development & Evaluation organization

CDR Fred van Ettinger, (NLD N) C2 Centre of Excellence, signs Letter of Agreement with NCOIC



Members speak with Carlo Magrassi, European Defence Agency Deputy Chief Executive for Strategy

- “The Australian Department of Defence is a keen supporter of NCOIC, its principles and tools. We aim to apply NCOIC’s products to our acquisition process to better define interoperability requirements and improve through-life systems integration prospects.” **John McGarry, Australian Air Commodore.**
- "We have used NCOIC’s NCAT tool to assess levels of interoperability during NATO Response Force exercises. Our Centre of Excellence found the tool to be very useful in establishing the level of interoperability." **Commander Fred van Ettinger, Section Head of the Multi National Command and Control Centre of Excellence.**
- “NCOIC has four characteristics which make it unique. The organization is solely dedicated to network-centric operations and interoperability; its membership stimulates discussions about global interoperability; it serves as a ‘vendor neutral’ forum, and it has a cadre of industry’s top technical experts who are available to do its work.” **Jack Zavin, U.S. Office of the Assistant Secretary of Defense, Networks and Information Integration.**

Relationships

- **Government**

- Australia Defence Organization (ADO)
- Eurocontrol
- European Defence Agency
- NATO
 - ACT
 - NC3A
 - NCSA
- Netherlands Command & Control Centre of Excellence
- Sweden Civil Aviation Authority (LFV)
- Sweden Defence Materiel Administration (FMV)
- US Defense Information Systems Agency (DISA)
- US Department of Homeland Security (DHS)
- US Federal Aviation Administration (FAA)
- US Joint Forces Command (JFCOM)
- US NAVAIR
- US SPAWAR
- OSD(NII)

- **Organizational**

- Australia Defence Information & Electronic Systems Association (ADIESA)
- NATO Industry Advisory Group (NIAG)
- OASIS
- World Wide Consortium for the Grid (W2COG)



2008 IDGA Award:
Outstanding Contribution
to the Advancement
of Network Centric Warfare

NCOIC Key Deliverables

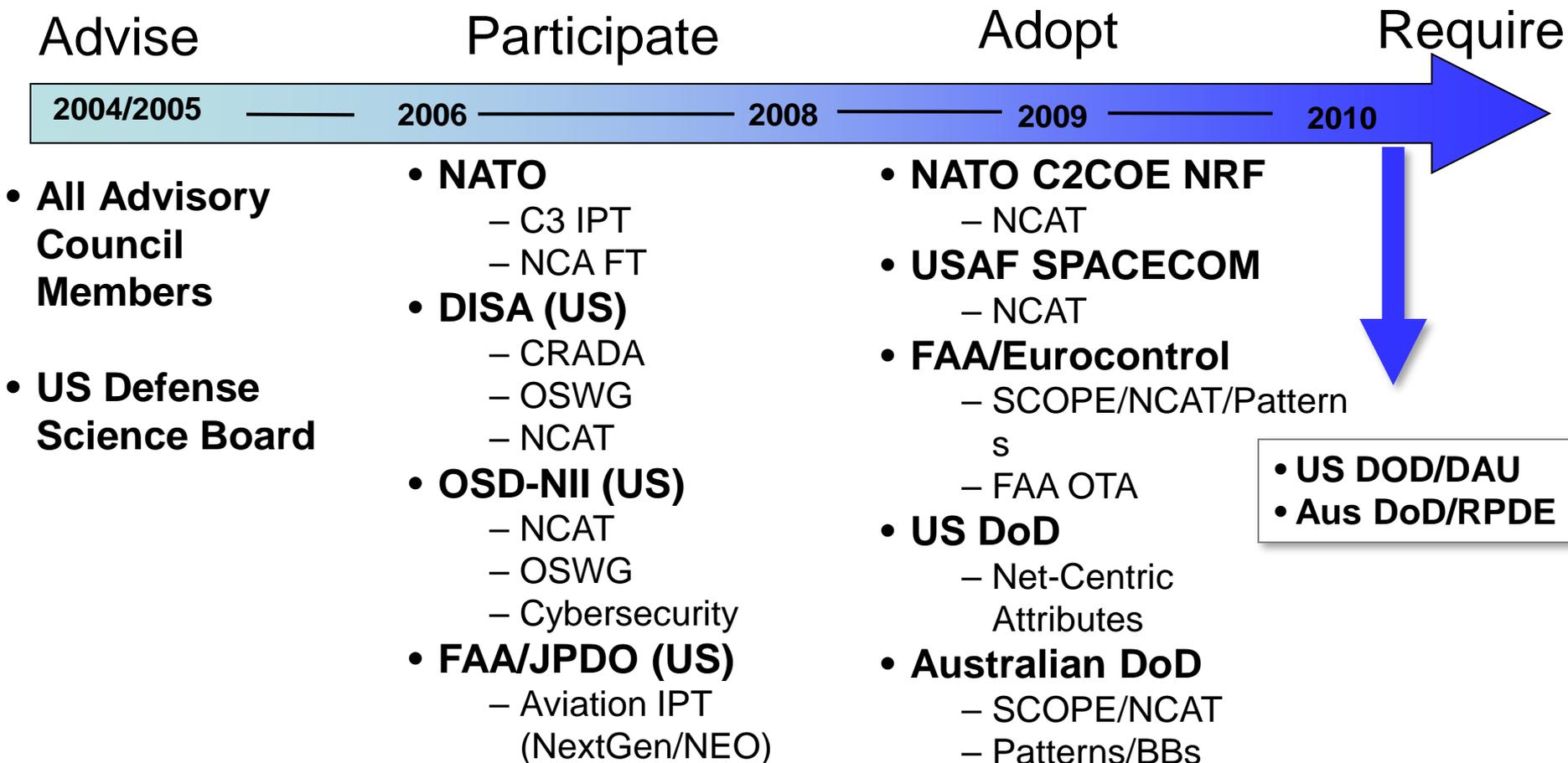
Addressing Inter-Agency, Cross-Industry NCO Gaps

- **Systems, Capabilities, Operations, Programs, & Enterprises (SCOPE) Model**
 - Characterization of commercial, civil, and government requirements for interoperable systems
- **NCOIC Interoperability Framework™ (NIF) and Net Centric Patterns**
 - Recommendations for open standards and their patterns of use to obtain interoperable systems
- **Building Blocks**
 - Catalog of COTS & GOTS open standards based products compliant with NIF recommendations
- **Network Centric Analysis Tool™ (NCAT)**
 - Netcentric analysis of system architectures, including System-of-Systems and Federation of Systems architectures
- **NCOIC Lexicon**
 - A glossary of terms and definitions that lay the foundation for meaningful discussions. Provides a common language for the disparity of ideas concerning key terms, including "NCO."
- **Systems Engineering best practices and processes**
 - These best practices and processes include tools, process and maturity models, modeling techniques, and collaborative environments for NCOIC integration.

These products, combined with NCOIC member expertise in NCO/NEC, measure netcentric capabilities, requirements, gaps and provide recommendations for interoperability

Sustained Effort to Make NCOIC Products Part of Procurement Process

Overarching Goal: NCOIC deliverables are adopted, utilized and required by customer agencies



NCOIC is Pursuing Plans to Further Increase Influence in Future Procurements

NCOIC Terms



- **Network-Centric:**
 - Related to systems and patterns of behavior that are influenced significantly or enabled by current and emergent networks and network technologies. Often these center around IP-based internetworking, but the term is sometimes used to include any type of enabling network.
- **Network-Centric Operations (NCO):**
 - An information superiority-enabled concept of operations that generates increased combat power by networking sensors, decision makers, and shooters to achieve shared awareness, increased speed of command, higher tempo of operations, greater lethality, increased survivability and a greater degree of self-synchronization.

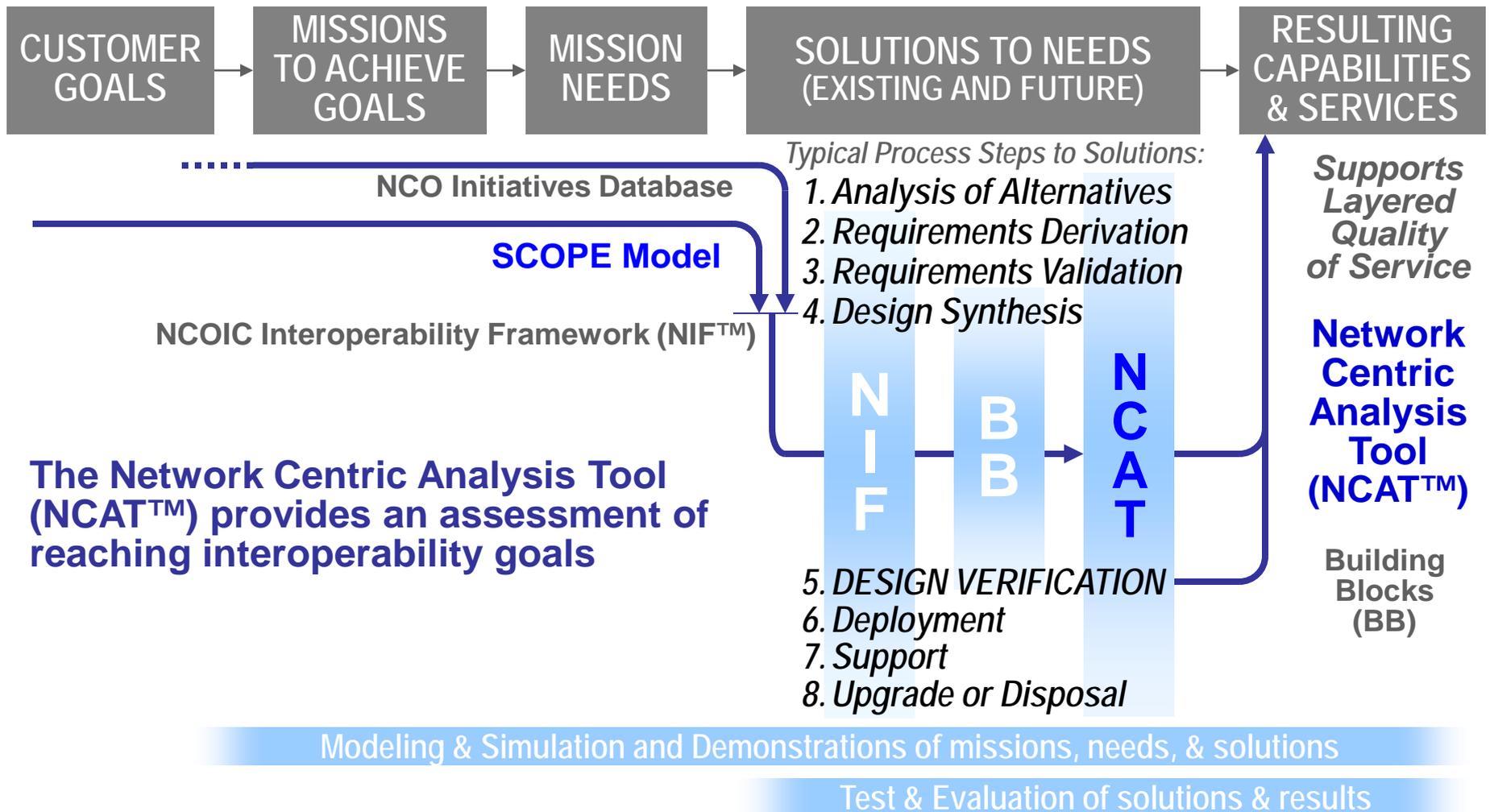
Net-Centricity Requires Interoperability

NCOIC & Interoperability



- **(DOD/NATO)** *The ability of systems, units, or forces to provide services to, and accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together. (Joint Pub 1-02)*
- **(DOD only)** *The condition achieved among communications-electronics systems or items of communications-electronics equipment when information or services can be exchanged directly and satisfactorily between them and/or their users. The degree of interoperability should be defined when referring to specific cases. (Joint Pub 1-02)*
- **(NATO)** *The ability to operate in synergy in the execution of assigned tasks. (AAP-6 [2005])*
- **(IEEE)** ... the ability of two or more systems or components to exchange information and to **use the information that has been exchanged**
- **(Wikipedia)** **Interoperability** is connecting people, data and diverse systems. The term can be **defined in a technical way or in a broad way, taking into account social, political and organizational factors.**

NCOIC Assists Customers in obtaining interoperable solutions





Network Centric Analysis Tool (NCAT™)



- The NCAT is an assessment tool to...
 - **Provide a metric based approach to evaluating and measuring a system architecture’s “fitness” for operating in a net centric environment**
- NCAT focuses on areas of criteria, categories, compliance, and recommendations
 - **Measures how well a target aligns with the areas of compliance**
 - **Criteria and metrics to measure their “goodness” are identified**
 - **Criteria can be grouped together into common categories (e.g. Information Assurance)**
 - **Criteria can be tailored to meet specific needs**

Network Centric Analysis Tool [NCAT™]

Purpose

- **NCAT Supports**

- Assessing compliance with specific architecture guidelines & ref models
- Selection of appropriate architectures
- Comparison between similar entities
- Implementation of SCOPE analyses

- **NCAT Use Cases**

- Internal Program performs self-assessment
- Product Evaluation Engineer ranks similar products based on scoring results
- Project/program Manager monitors progress comparing planned and achieved behaviors
- Lead Systems Integrator (LSI) verifies Network Centricity compliance
- Acquisition Authority selects system/products based on assessment results

Provides confidence that a system can operate in a network centric environment

Who is using NCAT™ ?

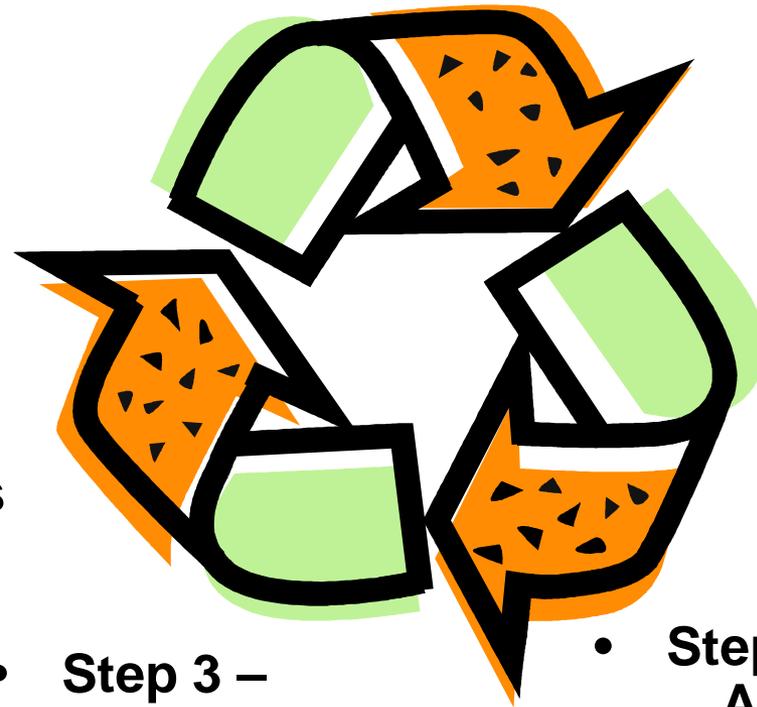


- Network Centric Operations Industry Consortium (NCOIC™)
 - Net Enabled Emergency Response (NEER) IPT
 - Sense & Respond Logistics (S&RL) IPT
 - Member companies for new business
- Member companies supporting FAA NextGen
- North Atlantic Treaty Organization (NATO)
- USAF Space Command (via Northrop Grumman)
 - Performing 100+ assessments
- Interest being shown by members of the Australian Department of Defence, DISA and FAA

NCAT Highlights

- Questionnaire-based
- Tailorable Q&As by Program
- Collaborative & Web-enabled
- SQL-driven - Supports MS SQL, IBM DB2 and Oracle database servers
- Excel-to-XML data import & export
- Leverages web services for easy integration with third-party reporting applications
- Supports NCOIC SCOPE model

- Step 1 – Set Goals/ Expectations



- Step 3 – Perform Analysis

- Step 2 – Perform Assessment

NCAT Terms

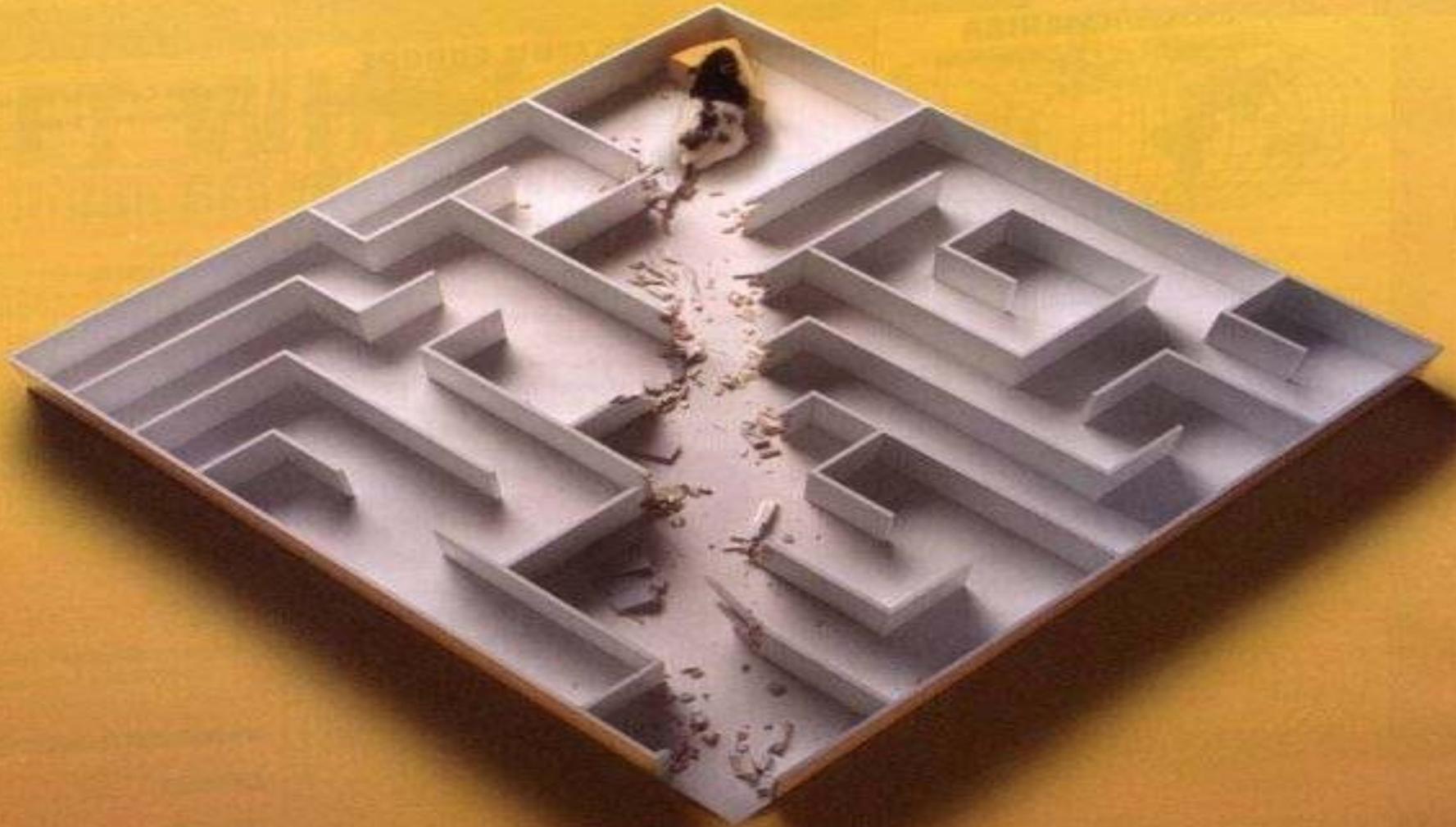


- **User attributes** = Roles + Programs
- **Program** (associated with a Survey)
 - Identifies the entity to be assessed
 - Partitions data between programs for privacy
- **Categories**
 - Groups of Questions & Answers
- **Profile** (has a Top Level Category)
 - A tailored set of Questions and Responses grouped by Categories
- **Survey** = Program + (Assess1+Assess2+Assess x)
 - Sets Planned Values
 - Associated with Profile & Program
 - Survey - Aggregation of multiple assessments sharing common Profile for a single program
- **Assessment** = User + Survey
 - Associated with User and Survey
 - Assessment is a single instance – one assessor, one set of questions
- **Reports**
 - Single Assessment or Survey Report with multiple Assessments
 - Compares Planned vs Achieved
 - Export to Excel /other External Analysis Tools

NCAT User Roles

Role	System Administrator	Content Definer	Program Configuration Manager	Assessor	Guest
Explanation	Has technical skills. Has knowledge about Reports and data to import/export.	Defines database content used for surveys and assessments	Administers programs and the surveys within these programs	Performs assessments for specific programs	May receive some general information about what NCAT does - not clearly specified
Associated with Program	No	No	Yes	Yes	No
NCAT Rights	Can create/edit/delete every NCAT entity such as Users, Programs, Profiles, and Surveys, etc. Can upload or delete Report templates. Can import/export every NCAT entity. Perform assessments. View Reports.	Create/modify/delete Classifications, Questions and Answers. C/m/d Programs and Surveys. Upload or delete Report templates. Perform assessments. View Reports.	Modify/delete ONLY Programs, where the user is assigned with this Role to. Modify/delete Surveys where the user is assigned to the corresponding Program. Perform Assessments for Surveys, where the user is assigned to the corresponding Program. View Reports for those Assessments.	Perform Assessments for Surveys, where the user is assigned to the corresponding Program. View Reports for those Assessments.	No specific rights

**Begin with the Goal
clearly in mind !**





NCAT Demonstration

NCAT - Engine Features



- System
 - Split between tool and content
- Technology
 - Web based **Generic Features**
 - 2 versions using common data base structure
- Access via Web
- Stand-alone on Desktop
 - Database backed
- Functionality
 - Taxonomy based evaluation
 - Multiple users, programs, schemes, profiles, and assessments
 - Response directed assessment
 - Program dependent weights, scales, and priorities
 - Progress tracking (planned, achieved, time series, snapshot)
 - Comparative (systems and phases) analysis
 - Extensive dynamic reporting – compliance, non-compliance, summary, detailed, various formats (tables and graphs)
- Interfaces
 - Import/export XML data

NCAT - Development Background



- **Spiral One**

- Based on: “Modular Open System Approach – Program Assessment and Rating Tool – DoD (AT&L/DS) - Joint Systems Task Force
- EXCEL Spreadsheet evaluation via NII Net Centric Checklist

- **Spiral Two**

- A web based tool
 - Capable of handling multiple sets of criteria
 - Provide extensive reporting
 - Oriented towards design and implementation communities as well as the acquisition community

- **Spiral Three**

- NCAT content extended to cover all aspects of interoperability:
 - NCOIC SCOPE model
 - NATO Maturity Levels
 - DoD / NATO Net-Ready Key Performance & Interoperability Parameters (NR-KPPs / KIPs)
 - Other customer evaluation criteria

NCAT V3 Enhancements



UI Enhancements

- Sortable tables (each column can be sorted) used in the overview pages, to include Profiles, Programs, Users
- New text fields for editing pages offering better value validation, automatic sizing and calendar widgets
- Improved assessment editing and performance
 - split plane for dragging a border between left/right area of screen
 - using dynamic trees for displaying and modifying categorization
 - popup window for showing contextual information
- Progress bars/wait icons when generating a report
- Value descriptions of question as small popup window

Assessment Enhancements

- Comment fields for each Answer
- Ability to include new attribute for question (example Answer) and displaying it where needed using turn on/off button
- Branching questions using an overview tree for displaying the different branches in editing mode
- Implementing agent for transferring old database content to new database schema

Usability Enhancements

- Excel-to-XML data import/export
- Supports MS SQL, IBM DB2 and Oracle database servers
- Leverages web services for easy integration with third-party reporting applications

Additional Enhancements

- Option to add a keyword list to Profiles and setting a corresponding filter in the Profile view
- Encrypting saved passwords
- Server binds to all available IP-addresses when starting application within enterprise network

NCAT Scenarios



Scenario 1: Product Evaluation Engineer Ranks Products

- Product evaluation engineer runs NCAT on multiple products with a common set of criteria. He produces a comparative report. He then ranks the products based on NCAT scores. Selection of the products guided by the NCAT scores depends on other factors.

Scenario 2: Project/program manager Monitors Progress

- The manager prepares a common set of criteria; runs NCAT at various phases of the project/Program. A comparison of the results shows the progress.

Scenario 3: LSI verifies/assesses compliance

- An LSI engineer/manager, before integrating the vendor products runs NCAT to assure interoperability and integration.

Scenario 4: Quality Check Engineer identifies root causes of failure

- Quality Engineer runs NCAT to determine if the system meets the set criteria. Root causes report is produced to identify and rectify possible failures.

NCAT Scenarios (cont'd)



Scenario 5: Acquire System

- System to be acquired is evaluated with a common set of criteria, which has a minimum level of acceptability. While identifying failure areas, NCAT gives a measure of acceptance/confidence.

Scenario 6: Architect identifies standards

- An engineer in charge of designing a net-centric system or its components creates an architecture with various views (i.e., SVs), that support a Technical View. He then evaluates it using NCAT and produces a guidance report. The report provides recommended applicable standards to improve the component's Net Centric characteristics.

Scenario 7: Assess system maturity

- A company developing a net-centric system assesses it against a maturity model that defines several levels of net-centric compliance. When compared to customer needs, this gives input to the development plans.

NCAT™ - Methodology



- NCAT™ focuses on compliance assessment using pre-defined questions and multiple choice responses
 - Identifies criteria and metrics to measure “goodness”
 - Measures how well a target aligns with the areas of compliance
 - Groups criteria into common categories like Information Assurance (IA)
- First – define standard against which to measure compliance
- Compliance Level determined by Assessor selecting using multiple choice responses with weighted scores to standard questions
- Assessments structured by an administrator who crafts the questions and planned target results for the specific case.
- Profiles developed by selecting applicable subsets of the available questions or creating new questions and responses
- Assessment Results (individual or series) reported
- Data Privacy maintained and not openly visible

Asking the right people the right questions

What are we measuring?

Network Centric Attributes and Behaviors

Attribute	Description
Internet & World Wide Web Like	Adapting Internet & World Wide Web constructs & standards with enhancements for mobility, surety, and military unique features (e.g. precedence, preemption) .
Secure & available information transport	Encryption initially for core transport backbone; goal is edge to edge; hardened against denial of service.
Information Protection & Surety (built-in trust)	Producer/Publisher marks the info/data for classification and handling; and provides provisions for assuring authenticity, integrity, and non-repudiation.
Post in parallel	Producer/Publisher make info/data visible and accessible without delay so that users get info/data when and how needed (e.g. raw, analyzed, archived).
Smart pull (vice smart push)	Users can find and pull directly, subscribe or use value added services (e.g. discovery). User Defined Operational Picture v Common Operational Picture.
Information/Data centric	Data separate from applications and services. Minimize need for special or proprietary software.
Shared Applications & Services	Users can pull multiple applications to access same data or choose same apps when they need to collaborate. Applications on “desktop” or as a service.
Trusted & Tailored Access	Access to the information transport, info/data, applications & services linked to user’s role, identity & technical capability.
Quality of service	Tailored for information form: voice, still imagery, video/moving imagery, data, and collaboration.



This document is a NESI product.
NESI (Net-Centric Enterprise Solutions for Interoperability) is a collaborative activity between the USN PEO for C4I and Space and the USAF Electronic Systems Center.

Net-Centric Implementation Framework

Part 1: Overview

Part 2: ASD (NII) Checklist Guidance

Part 3: Migration Guidance

Part 4: Node Design Guidance

Part 5: Developers Guidance

Part 6: Acquisition Guidance

V 1.0.1

04 February 2005



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Net-Centric Tenets



- Data Tenets – Data/Application Team
 - Make Data Visible
 - Make Data Accessible
 - Make Data Understandable
 - Make Data Trustable
 - Make Data Interoperable
 - Provide Data Management
 - Be Responsive to User Needs

Net-Centric Tenets



- Information Assurance/Security Tenets – IA Team
 - Net-centric IA posture & Ops Continuity
 - ID management, authentication, privileges
 - Mediate Security Assertions
 - Cross-Security Domains Exchange
 - Encryption
 - Employ Wireless Technologies
 - Others – Integrity, Confidentiality, Intrusion detection & reporting, Audits, Policy Compliance, Certification and Accreditation (C&A)

Net-Centric Tenets



- Service Tenets – Enterprise Services Team
 - Service Oriented Architecture (SOA)
 - Open Architecture
 - Scalability
 - Availability
 - Accommodate Heterogeneity
 - Decentralized Ops & Management
 - Enterprise Service Management (ESM)

Net-Centric Tenets



- Transport Tenets – Transport Team
 - IPv6
 - Packet Switched Infrastructure
 - Layering and Modularity
 - Concurrent Transport of Info Flows
 - Differentiated QoS Management
 - Network / Inter-network Connectivity
 - RF Acquisition
 - Joint Net-Centric Capabilities
 - Ops & Management of Transport & Services

Net-Centric Tenets



• Data Tenets – Data/Application Team

- Make Data Visible
- Make Data Accessible
- Make Data Understandable
- Make Data Trustable
- Make Data Interoperable
- Provide Data Management
- Be Responsive to User Needs

• Service Tenets – Enterprise Services Team

- Service Oriented Architecture (SOA)
- Open Architecture
- Scalability
- Availability
- Accommodate Heterogeneity
- Decentralized Ops & Management
- Enterprise Service Management (ESM)

• Information Assurance/Security Tenets – IA Team

- Net-centric IA posture & Ops Continuity
- ID management, authentication, privileges
- Mediate Security Assertions
- Cross-Security Domains Exchange
- Encryption and HAIPE
- Employ Wireless Technologies
- Others – Integrity, Confidentiality, Intrusion detection & reporting, Audits, Policy Compliance, C&A

• Transport Tenets – Transport Team

- IPv6
- Packet Switched Infrastructure
- Layering and Modularity
- Concurrent Transport of Info Flows
- Differentiated QoS Management
- Network / Inter-network Connectivity
- RF Acquisition
- Joint Net-Centric Capabilities
- Ops & Management of Transport & Services

Put together make up the majority of the questions

NCAT Survey Steps

- **Step 1 – Set Goals/ Expectations**



- **Step 3 – Perform Analysis**

- **Step 2 – Perform Assessment**

- Administrator creates a Profile to be used for a specific assessment
 - A Profile - selection of questions applicable to a Program
 - Administrator may adjust scores and weights at this stage
- Administrator creates a Program that has a fixed set of Assessors using “Profiles”
- Administrator creates a Survey from the profile
- Administrator sets threshold levels (called planned values) for each question with inputs from the team of stakeholders
- Assessor(s) answer Profile questions in the survey for the artifacts being assessed.

- Analysts generate reports on the results
 - Assessment Report includes a comparison between the planned values and the actual assessed values for an individual assessment.
 - Summary Report aggregates and scores the responses of all individual assessments for the program.

NCAT™ - Measurement Method

Technologies	Not Implemented	Some Elements	Over half	Most	ALL
Verification/ Certification	NONE	Little or NONE	Little or NONE	Most	ALL
Use of Standards	A Few	A Few More	Some Identified	Most	ALL
Governance Procedures	NONE	NONE	Some Identified	Most	ALL
NON COMPLIANCE 0 %	LOW COMPLIANCE 20%	PARTIAL COMPLIANCE 40%	SOME COMPLIANCE, NOT ALL 60%	MOSTLY COMPLIANT 80%	FULL COMPLIANCE 100%

NCAT uses a gradient scale

NCAT Assessment Reports

- NCAT Assessment Reports in 3 Formats
 - PDF, HTML, MS Word

NCAT™ overview

Users	Create, edit and delete users
Programs	Create, edit, delete a program
Categories, Questions and Answers	Create, edit, delete a category; create, edit, delete
Profiles	Create, edit, delete profiles which are based on cop The content definer may tailor categories, question
Surveys	Create, edit, delete a surveys by assigning a profile
Assessments	View and delete assessments
References	Create, edit and delete references
Guidances	Create, edit and delete guidances

Perform Assessment for Survey: -- select survey --

Generate Report from Report Template

Report Templates

Import Data

Export Data: Export all NCAT entities to data file

NCAT™ Network Centric Operations Industry Consortium

NCAT™ User: nca

Home > Report Templates

< back

Export Type: PDF HTML Word

Assessments

- My Fourth Assessment
- My First Assessment
- My Second Assessment
- My Third Assessment
- NDIA_Assessor - NDIA Survey
- ncat_administrator - NDIA Survey

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NCAT Assessments and Scores

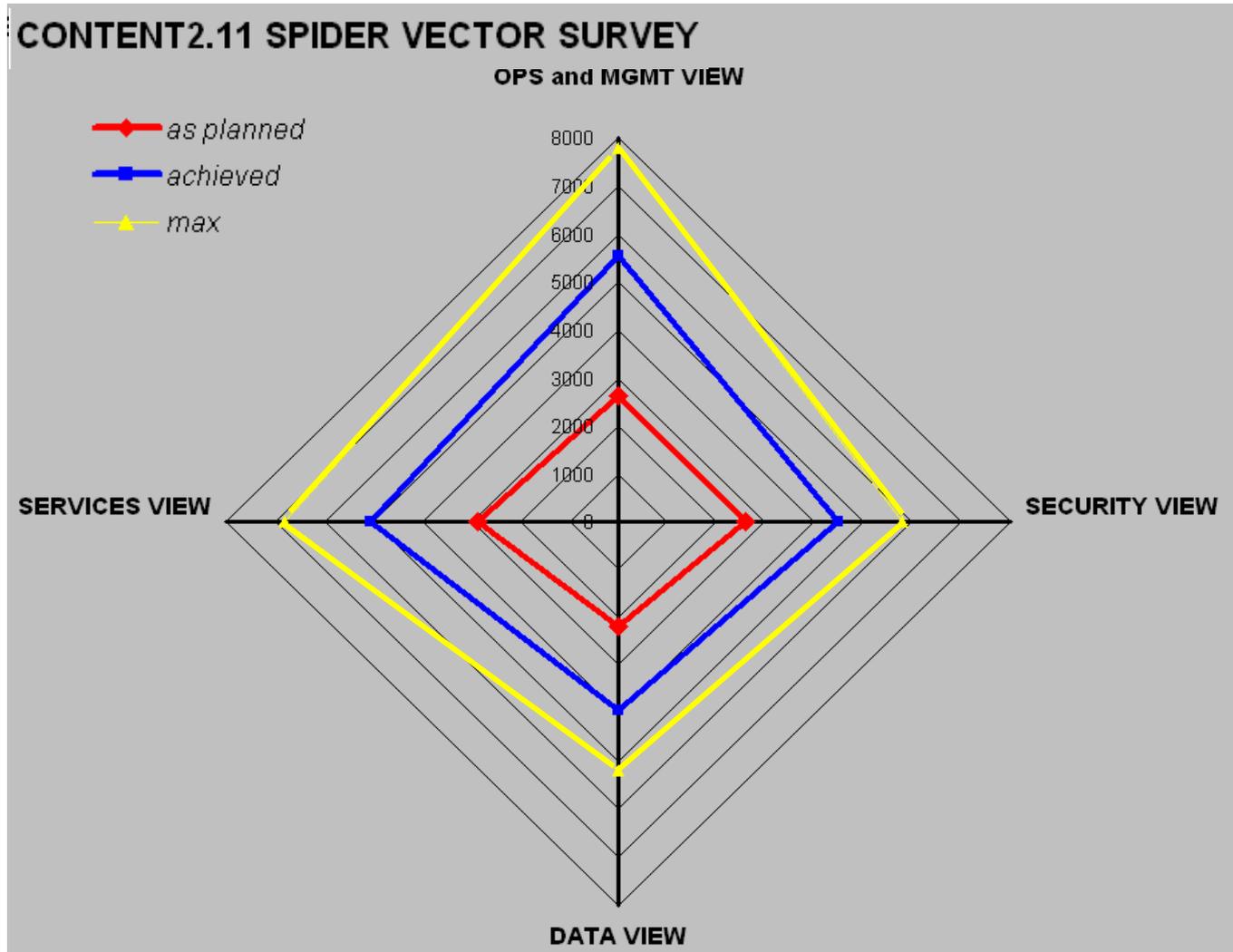
NCAT Tool Provides Overall Assessment and Scores for each Evaluation Criterion

Score Summary

- 25 Total Questions
- Max possible score = 25 x 100 point per question = 2500
- Planned 38.4%
- Achieved 76%
- Does not have to approach max, just meet or exceed planned

Section	Section	Total Questions Applicable	Total Questions Not Applicable	Max Score	Planned	Score	Normalized
A	Service Oriented Architecture	2	0	200	Planned	70	35.00 %
					Achieved	160	80.00 %
B	Open Architecture	7	0	700	Planned	280	40.00 %
					Achieved	660	94.29 %
C	Scalability	5	0	500	Planned	160	32.00 %
					Achieved	300	60.00 %
D	Availability	5	0	500	Planned	180	36.00 %
					Achieved	325	65.00 %
E	Highly Available	2	0	200	Planned	100	50.00 %
					Achieved	130	65.00 %
F	Enterprise Service Management	4	0	400	Planned	170	42.50 %
					Achieved	325	81.25 %
	Combined Rating	25	0	2500	Planned	960	38.40 %
					Achieved	1900	76.00 %

NCAT™ Content Analysis Example



NCAT Provides Simple Content Import Using Excel

- Enable Macros in Excel
- Follow Instructions on Worksheet 1

The screenshot shows the Microsoft Excel interface with the following data in the worksheet:

Set Designation No.	Level 1	Level 2	Level 3	Level 4	Level 5	Question	Answer	NCAT Description	Example	Guidance	Reference	Weight	Scale
1.0.0.0.0.0.1.1	OPS and MGMT VIEW							d2	e2	g2	r2		
1.1.0.0.0.0.1.1	OPS and MGMT VIEW	Situation Awareness (SA)						d3	e3	g3	r3		
1.1.1.0.0.0.1.1	OPS and MGMT VIEW	Situation Awareness (SA)	Situation Awareness (SA)					d4	e4	g4	r4		
1.1.1.1.0.0.1.1	OPS and MGMT VIEW	Situation Awareness (SA)	Situation Awareness (SA)	Situational Awareness				d5	e5	g5	r5		
1.1.1.1.0.1.0.1.1	OPS and MGMT VIEW	Situation Awareness (SA)	Situation Awareness (SA)	Situational Awareness		What is the ability to obtain situational awareness of the opposing force(s)? For example, opposing forces location/intentions.		d6	e6	g6	r6	1	
1.1.1.1.0.1.1.1.1	OPS and MGMT VIEW	Situation Awareness (SA)	Situation Awareness (SA)	Situational Awareness			Not able to obtain situation awareness.	d7	e7	g7	r7		10
1.1.1.1.0.1.2.1.1	OPS and MGMT VIEW	Situation Awareness (SA)	Situation Awareness (SA)	Situational Awareness			Very difficult to obtain situation awareness.	d8	e8	g8	r8		20
1.1.1.1.0.1.3.1.1	OPS and MGMT VIEW	Situation Awareness (SA)	Situation Awareness (SA)	Situational Awareness			Somewhat able to obtain adequate situation awareness.	d9	e9	g9	r9		30
1.1.1.1.0.1.4.1.1	OPS and MGMT VIEW	Situation Awareness (SA)	Situation Awareness (SA)	Situational Awareness			Easy to obtain accurate situation awareness.	d10	e10	g10	r10		40
1.1.1.1.0.2.0.0.0	OPS and MGMT VIEW	Situation Awareness (SA)	Situation Awareness (SA)	Situational Awareness		Is it possible to distribute recognised air picture (RAP) data being coherent and time sensitive?							
1.1.1.1.0.2.1.0.0	OPS and MGMT VIEW	Situation Awareness (SA)	Situation Awareness (SA)	Situational Awareness			It is not.					1	
1.1.1.1.0.2.2.0.0	OPS and MGMT VIEW	Situation Awareness (SA)	Situation Awareness (SA)	Situational Awareness			Yes, but the whole recognised air picture is updated in non real time information exchange.						20
1.1.1.1.0.2.3.0.0	OPS and MGMT VIEW	Situation Awareness (SA)	Situation Awareness (SA)	Situational Awareness			Yes, but the whole recognised air picture is updated in a non-real time information exchange within 20 minutes for 70 percent of occurrences.						30

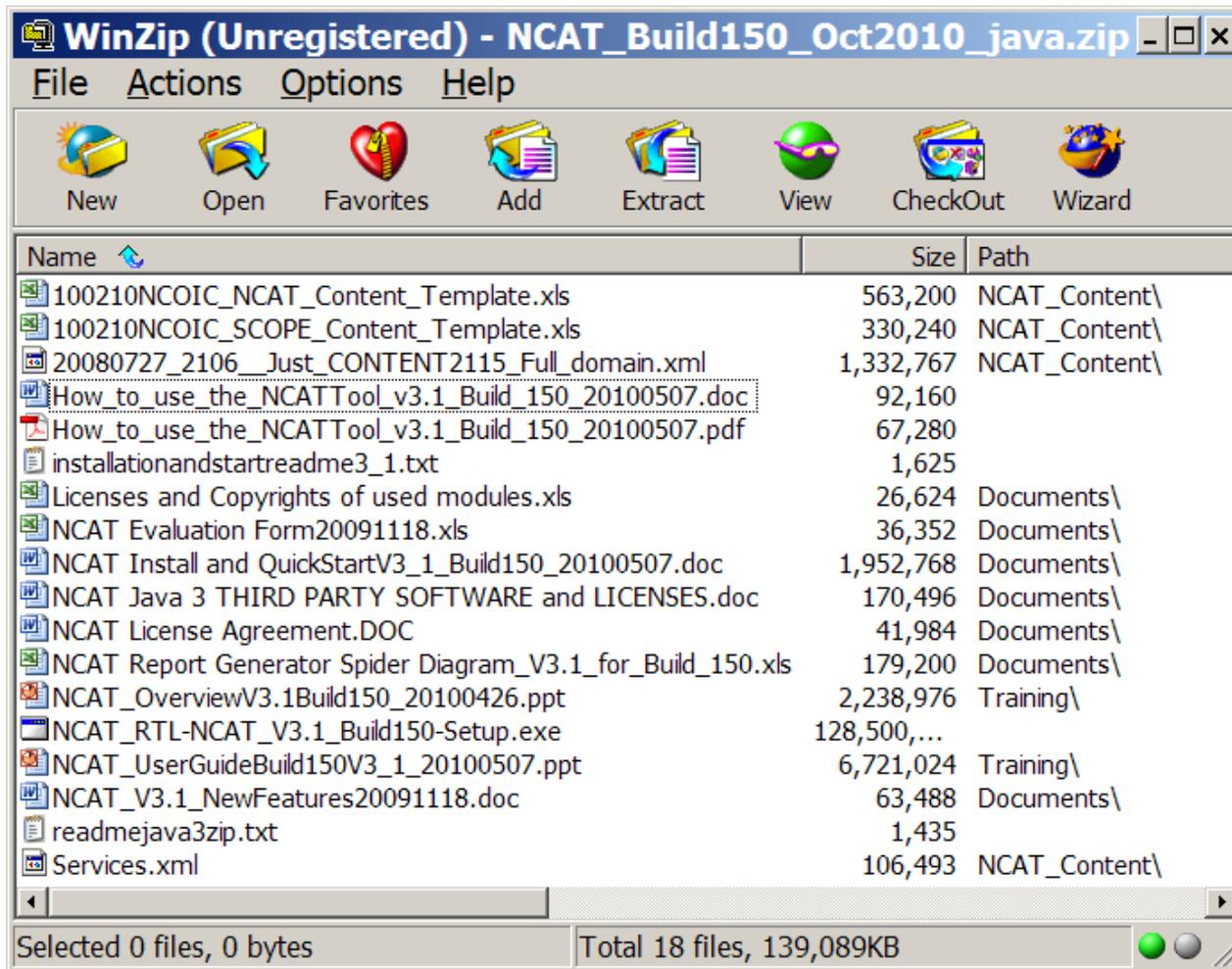
NCAT - Engine Features



- System
 - Split between tool and content
- Technology
 - Web based Generic Features
 - 2 versions using common data base structure
- Access via Web
- Stand-alone on Desktop
 - Database backed
- Functionality
 - Taxonomy based evaluation
 - Multiple users, programs, schemes, profiles, and assessments
 - Response directed assessment
 - Program dependent weights, scales, and priorities
 - Progress tracking (planned, achieved, time series, snapshot)
 - Comparative (systems and phases) analysis
 - Extensive dynamic reporting – compliance, non-compliance, summary, detailed, various formats (tables and graphs)
- Interfaces
 - Import/export XML data

NCAT™ Download Link

- Download link for NCAT and related Material
 - <http://ncoic.cachefly.net/Java/java.zip>



NCOIC eLearning Modules



Network Centric Operations Industry Consortium eLearning Modules

- [Network Centric Assessment Tool \(NCAT™\) Overview](#)
- <https://www.ncoic.org/technology/activities/education/elearning/>
- [Network Centric Operations: The Fundamentals](#)
- [The Role of NCOIC Deliverables](#)
- [Systems, Capabilities, Operations, Programs, and Enterprises \(SCOPE\) Model Overview](#)
- [NCOIC Interoperability Framework \(NIF™\) and NCOIC Patterns Overview](#)
- [Building Blocks Database Overview](#)
- [Export Compliance Overview](#)

On Line Training Materials

Summary



- NCOIC is developing a family of Network Centric Tools for understanding net-centricity and interoperability
- NCOIC provides NCAT to interested stakeholders
- NCAT can be tailored for:
 - Program specific profiles of selected questions
 - comparison of planned vs actual assessments
 - Privacy of program-specific results
- NCOIC requests feedback in return for using NCOIC products.
 - Feedback will be used to improve future versions only.
 - Your feedback will not be shared openly.

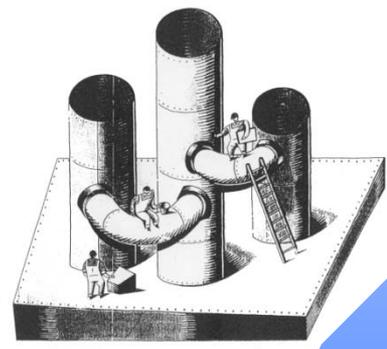


**Net-Enabled
Future**



NOOIC™

**Stove-piped
Systems,
Point-to-Point
Networks**





NCAT Tutorial Reference

NCAT Engine Tutorial



- In order to better understand NCAT, the following provides a short tutorial on a small subset of the NCAT questions.
 - The subset is entitled “Services” which has 25 questions
- The user will download the Java Zip files and install the NCAT program
- The user will log in as the “ncat_administrator” & do the following:
 - setup a new User Account for “John Q Services” (username “Services”,
 - create a new Program called “Services Program”,
 - create a new Profile called “Services Profile”,
 - create a new Survey called “Services Survey”,
 - set Planned Values, log out
- The user will log in a second time as “Services”:
 - perform the assessment answering 25 questions
 - Run some reports and examine them

Unzip the files on the host machine

- Double Click on the .exe file to install
- Automatically places files in C:\NCAT_RTL
- Go to C:\NCAT_RTL to start NCAT

The screenshot shows a Windows Explorer window with the following details:

- Title Bar:** C:\Documents and Settings\mbeauro\My Documents\NCOIC\NCAT Java\Cachefly_Download\java
- Address Bar:** C:\Documents and Settings\mbeauro\My Documents\NCOIC\NCAT Java\Cachefly_Download\java
- File List:**

Name	Size	Type	Date Modified
MECI		File Folder	7/6/2008 9:25 PM
NewContentFiles		File Folder	7/7/2008 3:19 PM
reports2008-01-15		File Folder	7/6/2008 9:25 PM
content204.xml	631 KB	XML Document	12/13/2007 12:19 PM
How_to_use_the_NCATTTool_v2_package_Java_r1.doc	67 KB	Microsoft Word Doc...	6/10/2008 12:35 AM
NCAT Evaluation Form_r1.xls	27 KB	Microsoft Excel Wor...	6/10/2008 12:34 AM
NCAT Java THIRD PARTY SOFTWARE and LICENSES.doc	177 KB	Microsoft Word Doc...	2/1/2008 11:48 AM
NCAT License Agreement.DOC	41 KB	Microsoft Word Doc...	2/1/2008 11:47 AM
NCAT_InstallationQSGuidePavoner1[1].doc	1,925 KB	Microsoft Word Doc...	4/8/2008 7:58 AM
NCAT_Report_Generator_Spider_Diagram.xls	111 KB	Microsoft Excel Wor...	5/26/2008 11:13 PM
NCAT_RTL_V2.2_Build130_ncoic.exe	84,224 KB	Application	5/26/2008 10:52 PM
README_000900.txt	5 KB	Text Document	7/6/2008 9:34 PM
readmejavazip.txt	3 KB	Text Document	6/10/2008 12:35 AM

Start NCAT – Derby Database

- 1. Double Click on 1-Start_Apache_Derby_DB.bat
- Wait for the command box to report “started and ready to accept..”

The screenshot shows a Windows Explorer window titled "C:\NCAT_RTL" with a menu bar (File, Edit, View, Favorites, Tools, Help) and a toolbar (Back, Forward, Search, Folders). The address bar shows "C:\NCAT_RTL". The left pane shows the folder tree with "Local Disk (C:)" expanded to "NCAT_RTL". The right pane shows a list of files and folders:

Name	Size	Type	Date Modified
Software		File Folder	5/23/2008 9:14 PM
0-configure_variable.bat	1 KB	MS-DOS Batch File	3/18/2008 7:29 AM
0-configure_variable.sh	1 KB	SH File	3/26/2007 3:25 AM
1-Start_Apache_Derby_DB.bat			
1-Start_Apache_Derby_DB.sh			
2-Start_JBoss.bat			
2-Start_JBoss.sh			
NCAT_InstallationQSGuidePavoneR1[1]....			
README.txt			

A green circle highlights the file "0-configure_variable.bat" in the file list. A red "1." is written next to it. An inset window titled "C:\WINDOWS\system32\cmd.exe" shows the output of a batch file:

```
JAVA_HOME: C:\NCAT_RTL\Software\jdk1.5.0_07
DERBY_HOME: C:\NCAT_RTL\Software\db-derby-10.2.2.0-bin
Apache Derby Network Server - 10.2.2.0 - (485682) started and ready to accept co
nnections on port 1527 at 2008-07-15 01:03:38.152 GMT
```

A green circle highlights the text "(485682) started and ready to accept co" in the command prompt output.

Start NCAT - JBoss

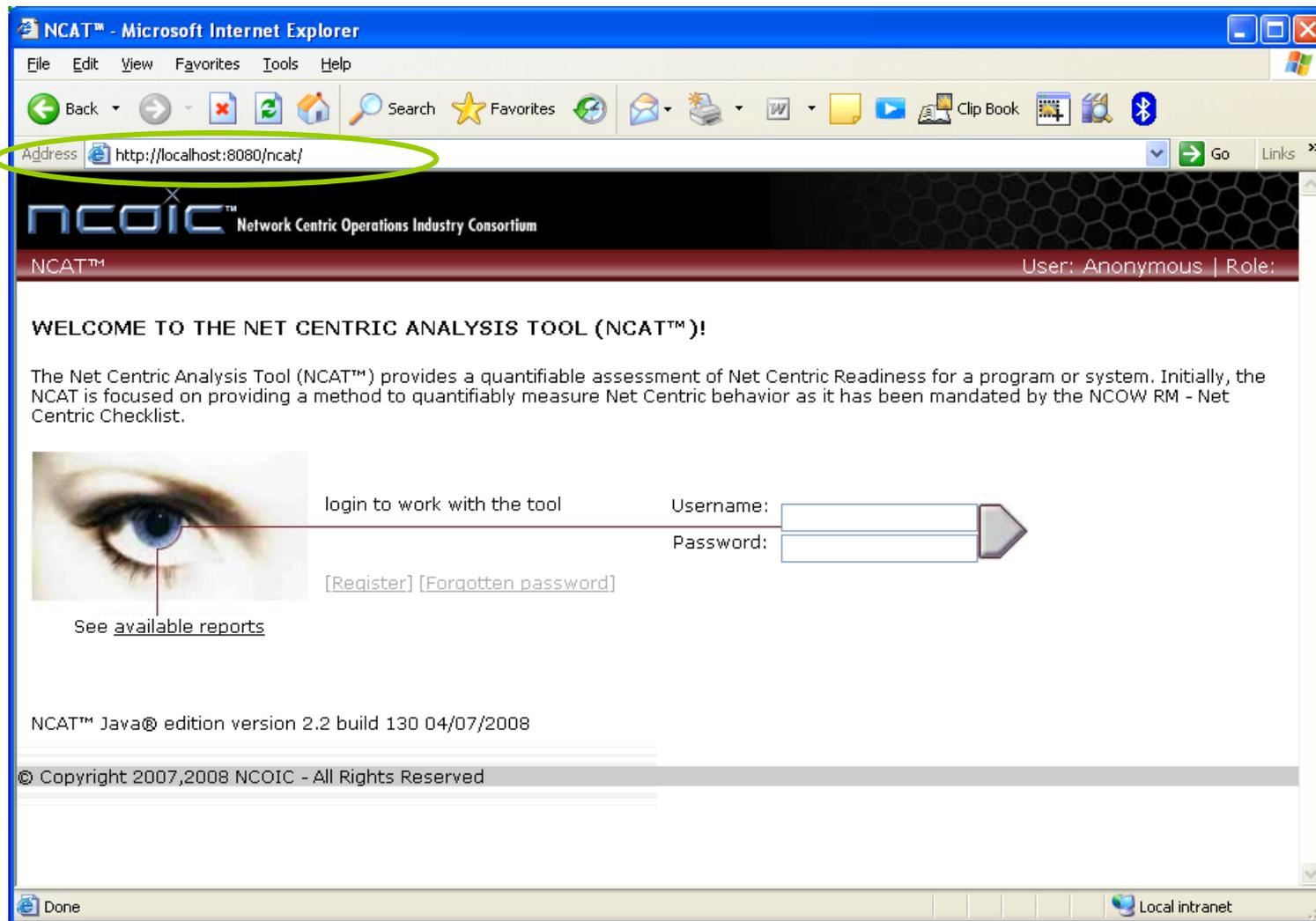
- 2. Double Click on 2-Start_JBoss.bat
- Wait for “Started in xx s”

The screenshot shows a Windows Explorer window titled 'C:\NCAT_RTL' with a file list. A green circle highlights the file '2-Start_JBoss.bat'. A large number '2.' is placed to the left of this file. Below the Explorer window, a Command Prompt window titled 'C:\WINDOWS\system32\cmd.exe' displays the output of the batch file, showing the start of JBoss and NCAT. A green circle highlights the final line of the output: 'Started in 33s:609ms'.

Name	Size	Type	Date Modified
Software		File Folder	5/23/2008 9:14 PM
0-configure_variable.bat	1 KB	MS-DOS Batch File	3/18/2008 7:29 AM
0-configure_variable.sh	1 KB	SH File	3/26/2007 3:25 AM
1-Start_Apache_Derby_DB.bat	1 KB	MS-DOS Batch File	11/8/2007 6:05 AM
1-Start_Apache_Derby_DB.sh	1 KB	SH File	3/26/2007 3:36 AM
2-Start_JBoss.bat			
2-Start_JBoss.sh			
NCAT_InstallationQSGuidePavoneR1[1]			
README.txt			

```
20:04:43,246 INFO [testQueue] Bound to JNDI name: queue/testQueue
20:04:43,293 INFO [UILServerILService] JBossMQ UIL service available at : /0.0.0.0:8093
20:04:43,324 INFO [IDLQ] Bound to JNDI name: queue/DLQ
20:04:43,480 INFO [ConnectionFactoryBindingService] Bound ConnectionManager 'jboss.jca:service=ConnectionFactoryBinding,name=JmsXA' to JNDI name 'java:JmsXA'
20:04:43,715 INFO [TomcatDeployer] deploy, ctxPath=/jmx-console, warUrl=../deploy/jmx-console.war/
20:04:46,340 INFO [TomcatDeployer] deploy, ctxPath=/ncat, warUrl=../tmp/deploy/tmp19338ncat-exp.war/
20:04:48,012 INFO [TilesPlugin] Tiles definition factory loaded for module ''
20:04:48,012 INFO [INCATSessionStrutsPlugin] -----
20:04:48,012 INFO [INCATSessionStrutsPlugin] ----- Initializing HibernatePlugin
20:04:58,918 INFO [INCATSessionStrutsPlugin] -----
20:04:59,074 INFO [Http11BaseProtocol] Starting Coyote HTTP/1.1 on http-0.0.0.0-8080
20:04:59,183 INFO [ChannelSocket] JK: ajp13 listening on /0.0.0.0:8009
20:04:59,199 INFO [JkMain] Jk running ID=0 time=0/78 config=null
20:04:59,199 INFO [Server] JBoss (MX MicroKernel) [4.0.5.GA (build: CUSTag=Branch_4_0 date=200610162339)] Started in 33s:609ms
```

Bring up web browser using “http://localhost:8080/ncat/”



The screenshot shows a Microsoft Internet Explorer browser window titled "NCAT™ - Microsoft Internet Explorer". The address bar contains the URL "http://localhost:8080/ncat/", which is circled in green. The browser's toolbar includes buttons for Back, Forward, Stop, Refresh, Home, Search, Favorites, and various utility icons like Clip Book and Bluetooth. The main content area displays the NCOIC™ Network Centric Operations Industry Consortium logo at the top. Below the logo, it says "NCAT™" and "User: Anonymous | Role:". The main heading reads "WELCOME TO THE NET CENTRIC ANALYSIS TOOL (NCAT™)!" followed by a paragraph describing the tool's purpose. A login section features a close-up image of a human eye on the left, with the text "login to work with the tool" to its right. Below the eye image is a link that says "See [available reports](#)". To the right of the eye image are two input fields labeled "Username:" and "Password:", each with a right-pointing arrow button. Below these fields are links for "[Register]" and "[Forgotten password]". At the bottom of the page, it states "NCAT™ Java® edition version 2.2 build 130 04/07/2008" and "© Copyright 2007,2008 NCOIC - All Rights Reserved". The browser's status bar at the bottom shows "Done" and "Local intranet".

Login as "ncat_administrator" using password "ncat"

NCAT™ - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://localhost:8080/ncat/> Go Links

ncat™ Network Centric Operations Industry Consortium

NCAT™ User: Anonymous | Role:

WELCOME TO THE NET CENTRIC ANALYSIS TOOL (NCAT™)!

The Net Centric Analysis Tool (NCAT™) provides a quantifiable assessment of Net Centric Readiness for a program or system. Initially, the NCAT is focused on providing a method to quantifiably measure Net Centric behavior as it has been mandated by the NCOW RM - Net Centric Checklist.

 login to work with the tool

Username:

Password:

[\[Register\]](#) [\[Forgotten password\]](#)

See [available reports](#)

NCAT™ Java® edition version 2.2 build 130 04/07/2008

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Done Local intranet

Examine NCAT™ overview (HOME)

- We will inspect each

- Users
- Programs
- Categories...
- Profiles
- Surveys (set planned)
- Assessments
- References
- Guidelines

- Then we will:

- Perform an assessment
- Generate Reports
- Analyze Results

- Click on “Users”

NCAT™ - Microsoft Internet Explorer

Address: http://localhost:8080/ncat/login.do;jsessionid=71B92D302B90DF

NCAT™ overview

[Users](#) Create, edit and delete U

[Programs](#) Create, edit, delete a pro

[Categories, Question and Answers](#) Create, edit, delete a cat

[Profiles](#) Create, edit, delete profil
The content definer may

[Surveys](#) Create, edit, delete a sur

[Assessments](#) View and delete assessm

[References](#) Create, edit and delete r

[Guidances](#) Create, edit and delete c

Perform Assessment for Survey:

[System Short List Vector](#)

[NCAT SPIDER Vector Sur](#)

[System Vector Test Sur](#)

[CONTENT2.11 SPIDER V](#)

[Data SPIDER Survey](#)

Generate Report from Report Template

[NCAT Report Assessme](#)

[NCAT Report Survey](#)

[Excel NCAT Report Bas](#)

[Report Templates](#) Upload, delete report ter

[Import Data](#) Import NCAT entities from

[Export Data](#) Export all NCAT entities t

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User attributes = Roles + Programs
Program (associated with a Survey)

- Identifies the entity to be assessed
- Partitions data between programs for privacy

Categories

- groups of Questions and Responses

Profile (has a Top Level Category)

- A tailored set of Questions and Responses grouped by Categories

Survey = Program +
(Assess1+Assess2+Assess x)

- sets Planned Values
- Associated with Profile & Program
- Survey - aggregation of multiple assessments sharing a common Profile for a single program

Assessment = User + Survey

- Associated with User and Survey
- Assessment is a single instance – one assessor, one set of questions

Reports

- Single Assessment or Survey Report with multiple Assessments
- Compares Planned vs Actual
- Export to Excel or other External Analysis Tools

Import / Export Data

Examine NCAT™ overview (HOME)



- We need a Naming Convention to create each definition and know it is the right one for us
 - User named “Services, John Q.”
 - Program “Services Program”
 - “Services” Category already exists
 - Profile “Services Profile”
 - Survey “Services Survey” (set planned values as admin)
 - Assessment – Note you can “View and delete”
 - Reference “Services Reference”
 - Guideline “Services Guideline”
- Then we will:
 - Logout as “ncat_administrator” and login as “Services”
 - Perform an assessment of the “Services Program”
 - Generate Reports on Single Assessment
 - Analyze Results

Setup User

- Pick “Services” Naming Convention first
- Fill in mandatory fields
- Have not set up Program yet so cannot assign role/program relationship
- Make sure you check the “Account is active” box.
- Save
- Come back later to add Program
- Click on “Home”

Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://localhost:8080/ncat/useredit.do>

NCAT™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System

Home > Users > Edit user

UserID*: Services

Password*: ●●●●

First Name: John Q.

Last Name*: Services

Organization: SOA

Phone: (972) 123-4567

Fax: (972) 765-4321

Cell:

Email*: John_Q_Services@Raytheon.com

Address: Mail Code at McKinney, TX

Role: in Program: add >

Roles in Programs: delete >

General Roles: add >

delete >

Account is active

Created: ()

Changed: ()

* - Fields are mandatory

Save Cancel

Done Local intranet

Confirm User “Services” is created

- Confirm on Users screen.
- Then Click on “Home” link. Then Click on “Programs” link.

NCAT™ - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://localhost:8080/ncat/main.do?action=userAdmin> Go Links >>

ncat™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

[Home](#) > Users

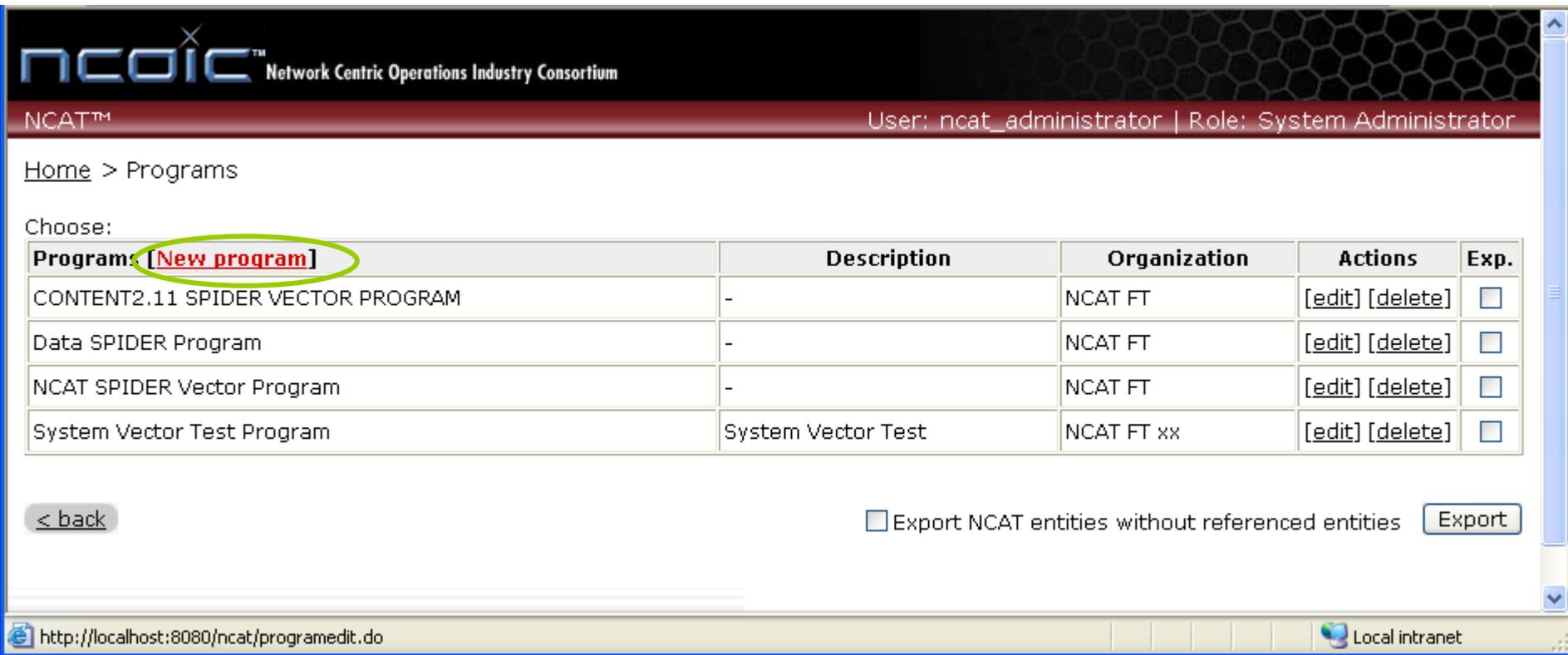
Choose:

Users [New user]	Name	Organization	Actions	Exp.
PCM	ProgramConfiguration Manager	PCM Org	[edit] [delete]	<input type="checkbox"/>
Services	John Q. Services	SOA	[edit] [delete]	<input type="checkbox"/>
admin	Michael Admin Beauford	NCAT FT	[edit] [delete]	<input type="checkbox"/>
ncat_administrator	Mike Beauford, CD, PCM	NCAT FT xxx	[edit] [delete]	<input type="checkbox"/>

Done Local intranet

Setup Program

- Follow the “Services” Naming Convention
- Click on New Program to create a new “Services Program”



ncat[™] Network Centric Operations Industry Consortium

NCAT[™] User: ncat_administrator | Role: System Administrator

Home > Programs

Choose:

Programs: [New program]	Description	Organization	Actions	Exp.
CONTENT2.11 SPIDER VECTOR PROGRAM	-	NCAT FT	[edit] [delete]	<input type="checkbox"/>
Data SPIDER Program	-	NCAT FT	[edit] [delete]	<input type="checkbox"/>
NCAT SPIDER Vector Program	-	NCAT FT	[edit] [delete]	<input type="checkbox"/>
System Vector Test Program	System Vector Test	NCAT FT xx	[edit] [delete]	<input type="checkbox"/>

< back Export NCAT entities without referenced entities Export

http://localhost:8080/ncat/programedit.do Local intranet

Fill in “Services Program” details

- Name it “Services Program”
- Fill in Mandatory Fields
- Skip References for now
- Note no Surveys are filled in
- Click on “Program is active”
- Click on “Save”
- Click on “Home”

The screenshot displays the NCOIC NCAT web application interface. The header includes the NCOIC logo and the text 'Network Centric Operations Industry Consortium'. The user is identified as 'ncat_administrator' with the role 'Sys'. The breadcrumb navigation shows 'Home > Programs > Edit program'. The form contains the following fields:

- ProgramID*:** Services Program
- Purpose* (max. 2000 characters):** This is a assessment of Services.
- Description (max. 2000 characters):** This is a description of the Services Program.
- Organization*:** NCAT Functional Team
- Reference:** -- no reference --
- Survey:** no survey assigned to program
- Program is active:**
- Created:** ()
- Changed:** ()

At the bottom, there is a note: '* - Fields are mandatory'. Below this note are two buttons: 'Save' and 'Cancel'.

Associate Program with User

- From “Home” Click on “Users”
- On the “Services” row, Click on Edit under “Actions”

[Home](#) > [Users](#)

Choose:

Users [New user]	Name	Organization	Actions	Exp.
PCM	ProgramConfiguration Manager	PCM Org	[edit] [delete]	<input type="checkbox"/>
Services	John Q. Services	SOA	[edit] [delete]	<input type="checkbox"/>
admin	Michael Admin Beauford	NCAT FT	[edit] [delete]	<input type="checkbox"/>
ncat_administrator	Mike Beauford, CD, PCM	NCAT FT xxx	[edit] [delete]	<input type="checkbox"/>

[< back](#)

Export NCAT entities without referenced entities

[Export](#)

Associate Program with User

- Click on “Role” pull down
 - Select “Assessor”
- Click on “in_Program” pull down
 - Select “Services Program”
 - Click on “Add”

The screenshot shows the NCOIC Network Centric Operations Industry Consortium interface. The user is logged in as 'ncat_administrator' with the role 'Sys'. The page title is 'NCAT™' and the breadcrumb is 'Home > Users > Edit user'. The form displays user details for 'Services' with fields for UserID, Password, First Name (John Q.), Last Name (Services), Organization (SOA), Phone, Fax, Cell, Email, and Address. The 'Roles in Programs' section is active, showing a dropdown menu for 'Role' with 'Assessor' selected, and another dropdown for 'in Program' with 'Services Program' selected. An 'add >' button is highlighted with a green circle. Below this, there is a 'General Roles' section with an empty dropdown and a 'delete >' button. The 'Account is active' checkbox is checked. The 'Created' and 'Changed' timestamps are both 'ncat_administrator (2008-07-14 20:28:23.371)'. At the bottom, there are 'Save' and 'Cancel' buttons and a note: '* - Fields are mandatory'.

UserID*:	Services
Password*:	••••
First Name:	John Q.
Last Name*:	Services
Organization:	SOA
Phone:	(972) 123-4567
Fax:	(972) 765-4321
Cell:	(972) 412-6001
Email*:	John_Q_Services@Raytheon.com
Address:	Mail Code at McKinney, TX
Roles in Programs:	Role: [Assessor] in Program: [Services Program] [add >]
General Roles:	[] [add >] [delete >]
Account is active	<input checked="" type="checkbox"/>
Created:	ncat_administrator (2008-07-14 20:28:23.371)
Changed:	ncat_administrator (2008-07-14 20:38:52.59)

* - Fields are mandatory

[Save] [Cancel]

Associate Program with User

ncoc™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: Sys

Home > Users > Edit user

UserID*:	Services			
Password*:	••••			
First Name:	John Q.			
Last Name*:	Services			
Organization:	SOA			
Phone:	(972) 123-4567			
Fax:	(972) 765-4321			
Cell:	(972) 412-6001			
Email*:	John_Q_Services@Raytheon.com			
Address:	Mail Code at McKinney, TX			
Role:	Assessor	in Program:	Services Program	add >
Roles in Programs:	Assessor-Services Program	delete >		
General Roles:		add >		
		delete >		
Account is active	<input checked="" type="checkbox"/>			
Created:	()			
Changed:	()			

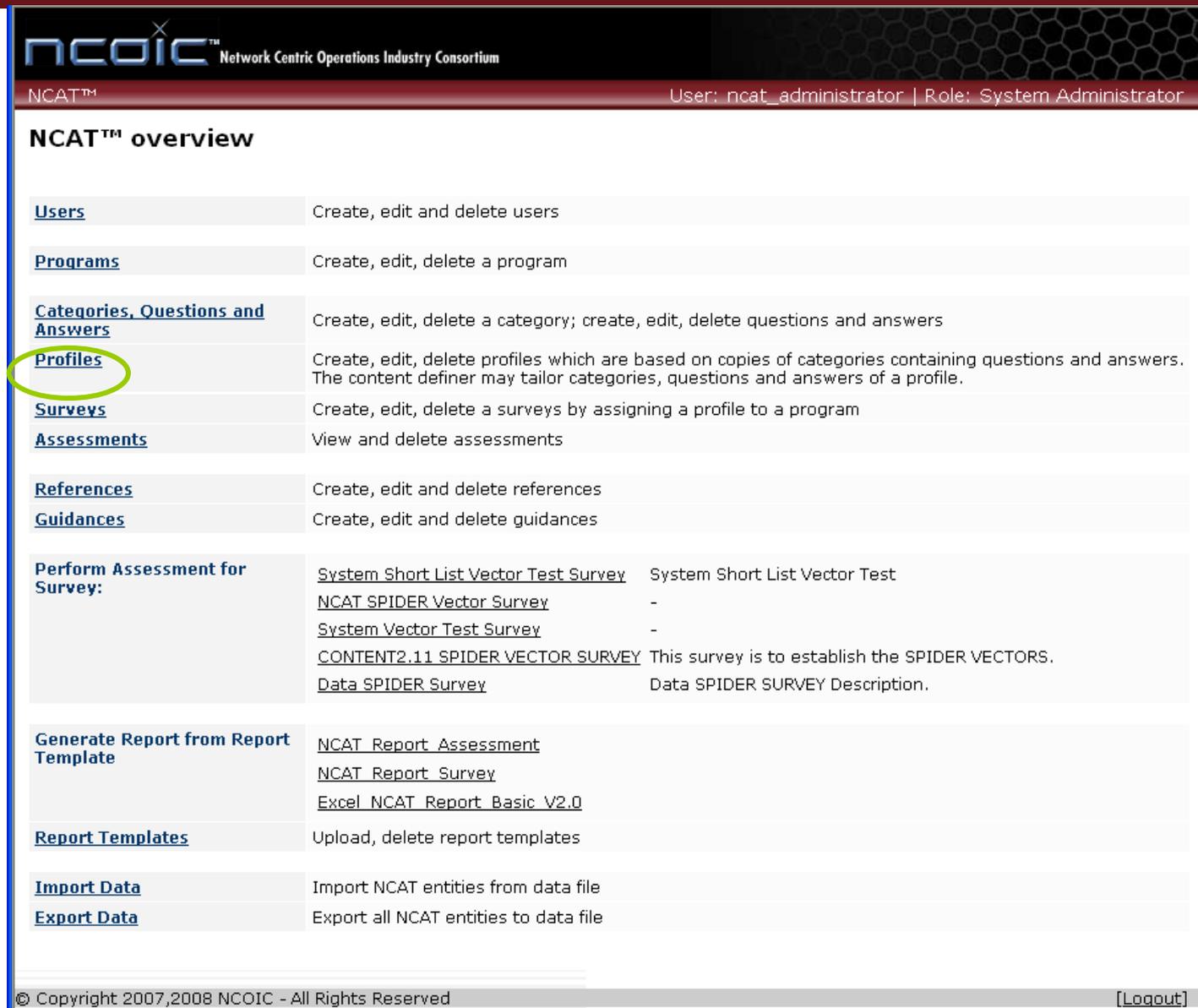
* - Fields are mandatory

Save Cancel

- Observe update to “Roles in Programs” concatenates “Assessor” – “Services Program”
- Click “Save” returns to “User” list
- Click “Home”

Setup Profile Next

- Since “Services” Category was already available, we will create a new Profile next.
- Click on “Profiles”



ncat™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

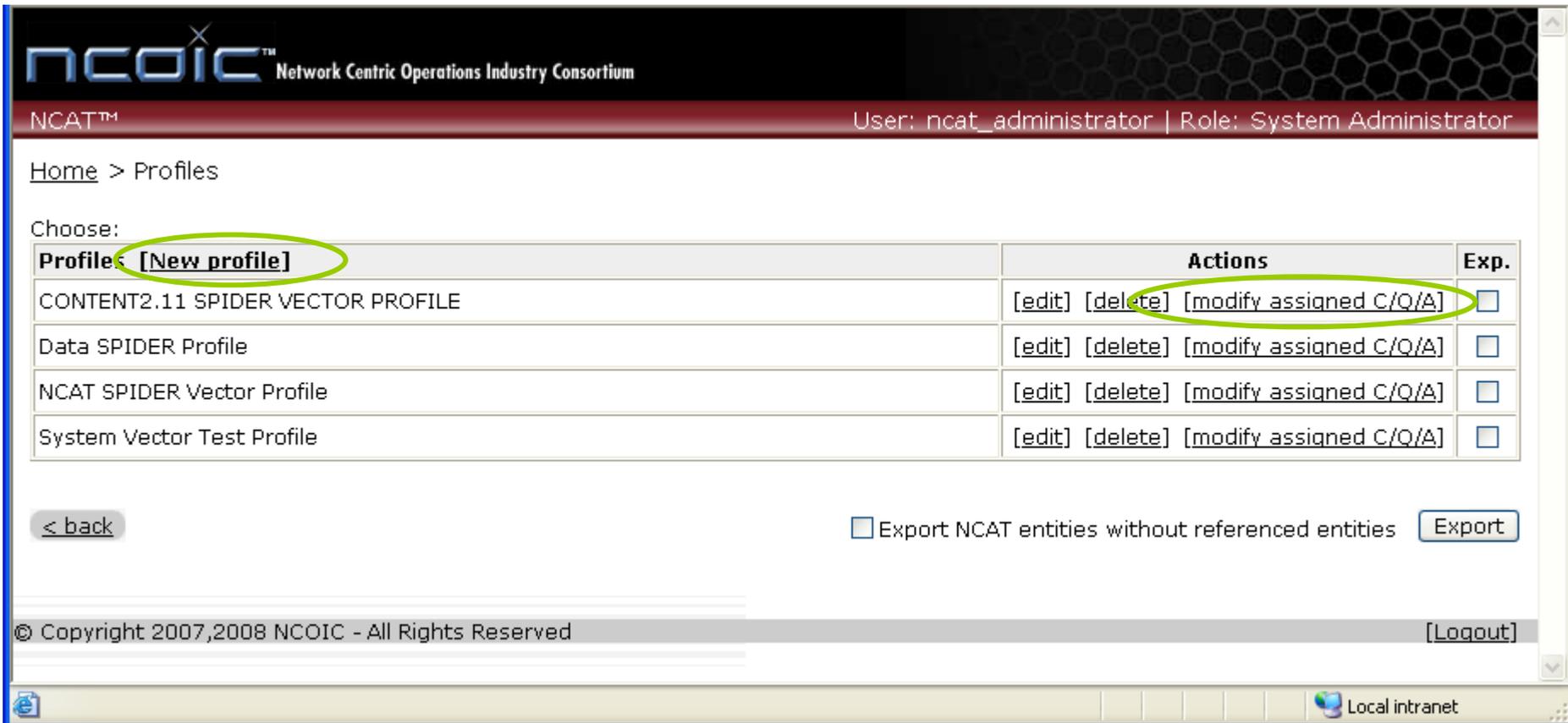
NCAT™ overview

Users	Create, edit and delete users
Programs	Create, edit, delete a program
Categories, Questions and Answers	Create, edit, delete a category; create, edit, delete questions and answers
Profiles	Create, edit, delete profiles which are based on copies of categories containing questions and answers. The content definer may tailor categories, questions and answers of a profile.
Surveys	Create, edit, delete a surveys by assigning a profile to a program
Assessments	View and delete assessments
References	Create, edit and delete references
Guidances	Create, edit and delete guidances
Perform Assessment for Survey:	System Short List Vector Test Survey System Short List Vector Test NCAT SPIDER Vector Survey - System Vector Test Survey - CONTENT2.11 SPIDER VECTOR SURVEY This survey is to establish the SPIDER VECTORS. Data SPIDER Survey Data SPIDER SURVEY Description.
Generate Report from Report Template	NCAT Report Assessment NCAT Report Survey Excel NCAT Report Basic V2.0
Report Templates	Upload, delete report templates
Import Data	Import NCAT entities from data file
Export Data	Export all NCAT entities to data file

© Copyright 2007,2008 NCOIC - All Rights Reserved [Logout]

Setup New Profile

- Actions include “modify assigned C/Q/A*” (discussed later)
 - C/Q/A = Categories, Questions, Answers
- Click on “New Profile”



ncoic™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

Home > Profiles

Choose:

Profiles	Actions	Exp.
[New profile]		
CONTENT2.11 SPIDER VECTOR PROFILE	[edit] [delete] [modify assigned C/Q/A]	<input type="checkbox"/>
Data SPIDER Profile	[edit] [delete] [modify assigned C/Q/A]	<input type="checkbox"/>
NCAT SPIDER Vector Profile	[edit] [delete] [modify assigned C/Q/A]	<input type="checkbox"/>
System Vector Test Profile	[edit] [delete] [modify assigned C/Q/A]	<input type="checkbox"/>

[< back](#) Export NCAT entities without referenced entities [Export](#)

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Local intranet

Create New “Services Profile”

ncoic™ Network Centric Operations Industry Consortium
NCAT™ User: ncat_administrator | Role: System Administrator

Home > Profiles > Edit profile

Profile name*: Services Profile

Description (max. 2000 characters): Description of the Services Profile.

Assigned Top Level Category*: SYSTEMS VIEW

Reference:

Profile is active

Created:

Changed:

* - Fields are mandatory

Save Cancel

© Copyright 2007,2008 NCOIC - All Rights Reserved [Logout]

- Name new profile “Services Profile”
- Fill Mandatory Fields
- Click on pull down for “Assign Top Level Category”
- Click on “Profile is active”
- Click on “Save” takes us back to “Profiles” page

Confirm new “Services Profile”

- Confirm creation of new “Services Profile”
- Click on “Home”

ncat™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

[Home](#) > Profiles

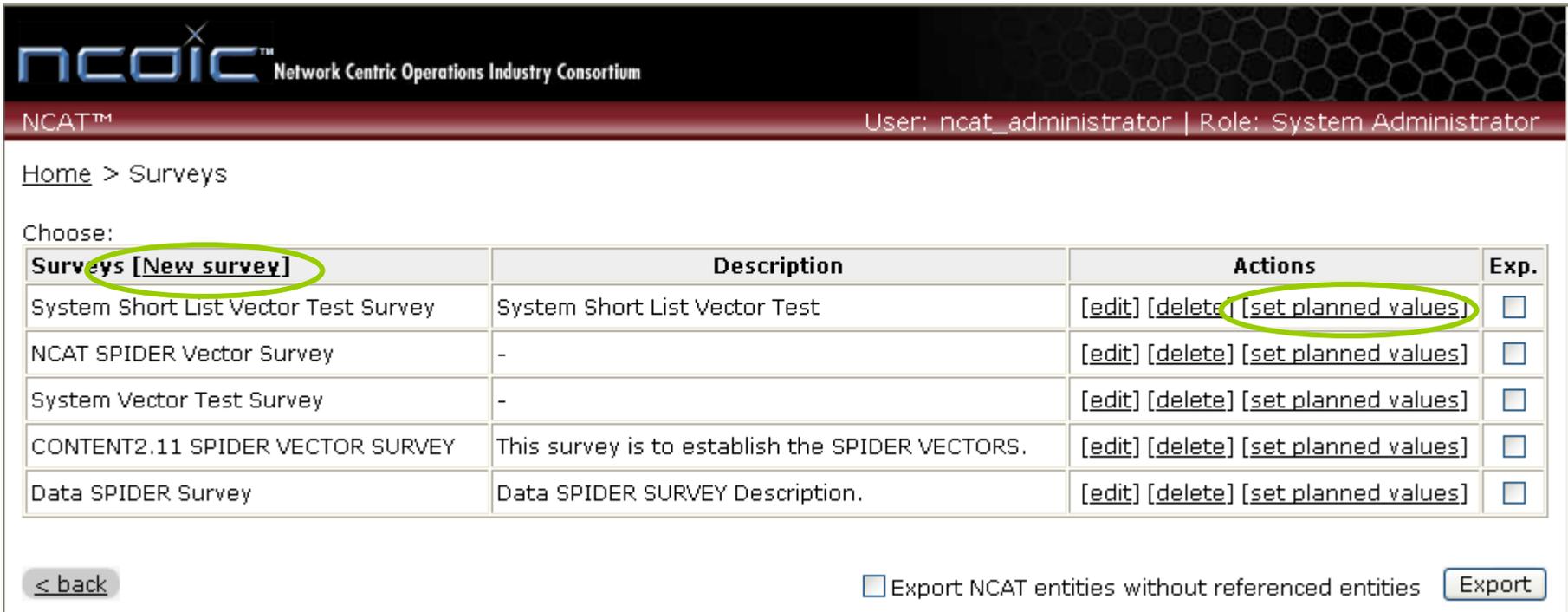
Choose:

Profiles [New profile]	Actions	Exp.
CONTENT2.11 SPIDER VECTOR PROFILE	[edit] [delete] [modify assigned C/Q/A]	<input type="checkbox"/>
Data SPIDER Profile	[edit] [delete] [modify assigned C/Q/A]	<input type="checkbox"/>
NCAT SPIDER Vector Profile	[edit] [delete] [modify assigned C/Q/A]	<input type="checkbox"/>
Services Profile	[edit] [delete] [modify assigned C/Q/A]	<input type="checkbox"/>
System Vector Test Profile	[edit] [delete] [modify assigned C/Q/A]	<input type="checkbox"/>

[< back](#) Export NCAT entities without referenced entities [Export](#)

Setup New Survey

- Observe Actions include “set planned values*” (discuss later)
- Click on “New Survey”



ncoic™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

Home > Surveys

Choose:

Surveys [New survey]	Description	Actions	Exp.
System Short List Vector Test Survey	System Short List Vector Test	[edit] [delete] [set planned values]	<input type="checkbox"/>
NCAT SPIDER Vector Survey	-	[edit] [delete] [set planned values]	<input type="checkbox"/>
System Vector Test Survey	-	[edit] [delete] [set planned values]	<input type="checkbox"/>
CONTENT2.11 SPIDER VECTOR SURVEY	This survey is to establish the SPIDER VECTORS.	[edit] [delete] [set planned values]	<input type="checkbox"/>
Data SPIDER Survey	Data SPIDER SURVEY Description.	[edit] [delete] [set planned values]	<input type="checkbox"/>

< back Export NCAT entities without referenced entities Export

Create New “Services Survey”

- Name it “Services Survey”
- Fill Mandatory & Optional Fields
- Click on pull down for “Profile” and select “Services Profile”
- Click on pull down for “Program” and select “Services Program”
- Click on “Survey is active”
- Click on “Save” takes us back to “Surveys” page

ncoic™ Network Centric Operations Industry Consortium
NCAT™ User: ncat_administrator | Role: System

Home > Surveys > Edit survey

Survey name*:	Services Survey
Description (max. 2000 characters):	Description of Services Survey.
Start date (mm/dd/yyyy):	08/04/2008
End date (mm/dd/yyyy):	12/31/2008
Leader:	Bill Swanson
Milestone:	Complete Milestone A
Purpose:	Demonstrate NCAT
Profile:	Services Profile
Program:	Services Program
Survey is active	<input checked="" type="checkbox"/>
Created:	()
Changed:	()

* - Fields are mandatory

Confirm new “Services Survey”

- Confirm creation of new “Services Survey”
- Click on “Services Survey” Actions “set planned values”
- Can only be set by “ncat_administrator”



[Home](#) > Surveys

Choose:

Surveys [New survey]	Description	Actions	Exp.
System Short List Vector Test Survey	System Short List Vector Test	[edit] [delete] [set planned values]	<input type="checkbox"/>
NCAT SPIDER Vector Survey	-	[edit] [delete] [set planned values]	<input type="checkbox"/>
System Vector Test Survey	-	[edit] [delete] [set planned values]	<input type="checkbox"/>
CONTENT2.11 SPIDER VECTOR SURVEY	This survey is to establish the SPIDER VECTORS.	[edit] [delete] [set planned values]	<input type="checkbox"/>
Data SPIDER Survey	Data SPIDER SURVEY Description.	[edit] [delete] [set planned values]	<input type="checkbox"/>
Services Survey	Description of Services Survey.	[edit] [delete] [set planned values]	<input type="checkbox"/>

[< back](#)

Export NCAT entities without referenced entities

[Export](#)

Setting “Planned Values”

- Observe Services has six sub-categories which are labeled alphabetically.
- Letter A is “Service Oriented Architecture” which has 2 questions.
- Q1 of SOA is shown below.
- Pick 2nd choice “The System uses some services through” – The planned value
- Click “next question”

The screenshot shows the NCOIC™ Network Centric Operations Industry Consortium interface. At the top, the user is identified as 'ncat_administrator' with the role of 'System Administrator'. A navigation bar includes a '< back' button and a 'next question >' button. The main content area is titled 'Category A: Service Oriented Architecture' and contains 'Question A1 (2): To what extent are system capabilities implemented as service components that are published and discoverable through open standards?'. A red warning message 'YOU ARE EDITING PLANNED VALUES!' is displayed above a list of radio button options. A yellow arrow points to the second option: 'The system uses some services through Web Services or Rest.'.

Note 1: Letter Designation of this category

Note 2: 1 (2) indicates Q1 of 2 questions in this category

Note 1: Services

Note 2:

YOU ARE EDITING PLANNED VALUES!

The functionality of the system is not implemented with service components.

The system uses some services through Web Services or Rest.

Many of the systems functions are implemented and deployed as services in a local repository.

The systems functions are deployed and registered in a repository that is accessible for all members of a COI who can use them.

System functionality is implemented by choreographing service invocations dynamically in a workflow that satisfies the mission goal.

next question > end assessment

[< back](#)**Categories:****Services****Service Oriented Architecture****Open Architecture****Scalability****Availability****Heterogeneity Accommodation****Enterprise Service Management****Category A: Service Oriented Architecture****Question A2 (2): To what extent are system capabilities implemented as service components that are accessed through a common Enterprise Service Bus (ESB)?****YOU ARE EDITING PLANNED VALUES!**

- No Enterprise Service Bus is used by the system.
- Proprietary middleware provides some of the basic services of an ESB. No specific procedures are in place to ensure uniform compliance.
- An ESB is implemented internally that can provide basic services to the platform. Some standards are utilized in the implementation.
- An ESB is implemented using widely used open standards that provide all the net-centric core services as well as critical event processing, security services and autonomic capabilities. Most of the system's functionality is implemented as services.
- An open standard based COTS ESB that can mediate dynamic requests and match QoS requests with appropriate SLAs in non-real time, near real time and real time and interact with other ESBs deployed on the net-centric environment. The ESB is verified and certified to provide these capabilities. Uniform adoption is assured by comprehensive governance processes.

[< previous question](#)[next question >](#)[end assessment](#)

[< back](#)**Category B: Open Architecture****1 (7) indicates Q1 of 7 questions in this category****Question B1 (7): Is the system architecture based on loosely-coupled interactions, enabling the internal components to map to well-defined external interfaces?****YOU ARE EDITING PLANNED VALUES!**

- The system is tightly integrated and not modular.
- The system is constructed of well defined modules with well defined interfaces, but the interfaces are proprietary or specific to the program.
- The system is constructed of well defined modules with well defined interfaces. Interfaces are based on widely used open standards and consistent with the program or platform.
- The system is constructed of well defined modules with well defined interfaces. Interfaces are based on widely used open standards and consistent with the COI.
- The system is constructed using invoked dynamically discovered services or through choreography of services (or both). Services implemented by this system are deployed and dynamically discoverable on the net-centric environment and accessed using net-centric core services for discovery, mediation, messaging, and connectivity.

[< previous question](#)[next question >](#)[end assessment](#)**Categories:****Services****Service Oriented Architecture****B. Open Architecture****Scalability****Availability****Heterogeneity Accommodation****Enterprise Service Management**

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Category B: Open Architecture

Categories:

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Question B2 (7): Is Web access implemented by the program built using Web Foundational standards: Hypertext Transfer Protocol (HTTP), Hypertext Mark up Language (HTML), File Transfer Protocol (FTP), User Datagram Protocol (UDP), Transport Control Protocol (TCP), Internet Protocol (IP), Simple Mail Transfer Protocol (SMTP), Multi-purpose Internet Mail Extensions (MIME), Uniform Resource Locator (URL), and Unicode universal character set?

YOU ARE EDITING PLANNED VALUES!

- Web Access is not implemented by this system.
- This system utilizes some, but not all of the listed standards.
- This system implements and uses Web Access using most or all of the listed standards in their current form. The standards used have been verified to work together.

[< previous question](#)

[next question >](#)

[end assessment](#)

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Categories:

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Category B: Open Architecture

Question B3 (7): Are Web services and web access implemented by the program built using Web Emerging Standards or Best Practices: HTTP State Management Mechanism, MIME Encapsulation of Aggregate Documents such as HTML (MHTML), Web Distributed Authoring and Versioning (Web-DAV)?

YOU ARE EDITING PLANNED VALUES!

- Web Access is not implemented in this system.
- This system utilizes distributed components but not web services.
- This system utilizes some, but not all of the listed standards.
- This system implements and uses Web Services using most or all of the listed standards.
- This system utilizes Web Services standards and also utilizes Grid computing standards.

[< previous question](#)

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[end assessment](#)

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Category B: Open Architecture

Question B4 (7): Are Web services and web access implemented by the program built using XML Foundational Standards: XML Namespaces, Extensible Style Language Transformations (XSLT), Extensible Style Language (XSL), XML Path Language (XPath), Cascading Style Sheets (CSS)?

YOU ARE EDITING PLANNED VALUES!

- Neither Web Access nor Services is implemented in this system.
- This system utilizes distributed components but not web services.
- This system utilizes some, but not all of the listed standards.
- This system implements and uses Web Services using most or all of the listed standards.
- This system utilizes Web Services standards and also utilizes Grid computing standards.

[< previous question](#)

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[end assessment](#)

Categories:

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Category B: Open Architecture

Categories:

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Question B5 (7): Are Web services implemented by the program built using Representational State Transfer (REST), Simple Object Access Protocol (SOAP), Web Services Description Language (WSDL), Universal Description, Discovery, and Integration (UDDI)?

YOU ARE EDITING PLANNED VALUES!

- Web Services are not implemented in this system.
- This system utilizes distributed components but not web services.
- This system utilizes some, but not all of the listed standards.
- This system implements and uses Web Services using most or all of the listed standards.
- This system utilizes Web Services standards and also utilizes Grid computing standards.

[< previous question](#)

[next question >](#)

[end assessment](#)

[< back](#)

Category B: Open Architecture

Question B6 (7): Are Web services products compliant with WS-Security Profile?

YOU ARE EDITING PLANNED VALUES!

- Web Services are not implemented in this system.
- Web services that are used are implemented with proprietary interfaces.
- Web services use products that are compliant, but configurations are not verified.
- Yes, fully compliant and verified.

[< previous question](#)

[next question >](#)

[end assessment](#)

Categories:

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Category B: Open Architecture

Categories:

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Question B7 (7): Are Web services products compliant with the Web Services Interoperability (WS-I) Basic Profile?

YOU ARE EDITING PLANNED VALUES!

- Web Services are not implemented in this system.
- Web services that are used are implemented with proprietary interfaces.
- Web services use products that are compliant, but configurations are not verified.
- Yes, fully compliant and verified.

[< previous question](#)

[next question >](#)

[end assessment](#)

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Category C: Scalability

Categories:

Services

C. Service Oriented Architecture

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Enterprise Service Management

Question C1 (5): How many consumers of services deployed by this system are expected?

YOU ARE EDITING PLANNED VALUES!

- Web Services are not implemented in this system.
- Unknown/estimated.
- Empirical evidence shows that the system can support the expected number of consumers.
- The system has been formally tested to meet the service level as defined in the specifications and is capable of scaling to meet excess demand.
- The system includes automatic detection of increased usage and will automatically increase capacity without human intervention.

[< previous question](#)

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[end assessment](#)

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Categories:

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Category C: Scalability

Question C2 (5): How many service invocations of services deployed by this system per hour (or per some appropriate unit of time) are expected?

YOU ARE EDITING PLANNED VALUES!

- Web Services are not implemented in this system.
- Unknown/estimated.
- Empirical evidence shows that the system can support the expected number of service invocations.
- The system has been formally tested to meet the service level as defined in the specifications and is capable of scaling to meet excess demand.
- The system includes automatic detection of increased service load and will automatically increase capacity without human intervention.

[< previous question](#)[next question >](#)[end assessment](#)

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Category C: Scalability

Categories:

Services

Service Oriented Architecture

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Question C3 (5): On what assumptions or empirical tests are the above mentioned estimates based?

YOU ARE EDITING PLANNED VALUES!

- Web Services are not implemented in this system.
- Unknown/estimated.
- Past usage history.
- Surveys and agreements have been executed to provide best estimates.
- Hardware and software facilities are in place to scale automatically to meet usage and load requirements.

[< previous question](#)

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Category C: Scalability

Categories:

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Question C4 (5): What performance analysis has been done to understand or predict the ability of the service to handle number of end-user consumers?

YOU ARE EDITING PLANNED VALUES!

- Web Services are not implemented in this system.
- Unknown/estimated.
- Empirical evidence shows that the system can support the expected number of consumers.
- The system has been formally tested to meet the service level as defined in the specifications and is capable of scaling to meet excess demand.
- Hardware and software facilities are in place to scale automatically to meet usage and load requirements.

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Category C: Scalability

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Question C5 (5): What performance analysis has been done to understand or predict the ability of the service to handle the expected number of calling services?

YOU ARE EDITING PLANNED VALUES!

- Web Services are not implemented in this system.
- Unknown/estimated.
- Empirical evidence shows that the system can support the expected number of service demands.
- The system has been formally tested to meet the service level as defined in the specifications and is capable of scaling to meet excess demand.
- Hardware and software facilities are in place to scale automatically to meet usage and load requirements.

[< previous question](#)

[next question >](#)

[end assessment](#)

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Category D: Availability

Question D1 (5): Does the program have a continuity of operations plan?

YOU ARE EDITING PLANNED VALUES!

- No plan is in place.
- Basic plan allows for MTBF and MTB recovery. No testing plan is in place.
- Basic plan allows for MTBF and MTB recovery. Testing plan is in place and exercised regularly.
- A continuity plan is in place to assure minimal MTBR including regular backups and testing.
- A fault tolerant continuity of operations plan is in place and it is exercised on a regular basis with contingency operations also verified.

[< previous question](#)

[next question >](#)

[end assessment](#)

Categories:

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Category D: Availability

Categories:

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Question D2 (5): What is the plan for providing service during routine maintenance (hardware and software)?

YOU ARE EDITING PLANNED VALUES!

- No plan is in place.
- Scheduled outages.
- Scheduled outages. Regular backups and test of backups is done.
- Backup systems are used to carry load while prime system is maintained. Synchronization is manual and requires man in the loop.
- Backup systems are used to carry load while prime system is maintained, synchronization is automatic.

[< previous question](#)

[next question >](#)

[end assessment](#)

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Category D: Availability

Categories:

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Question D3 (5): What is the plan for providing service during catastrophic failures (e.g. massive outages of the power grid, physical destruction of the hosting facility)?

YOU ARE EDITING PLANNED VALUES!

- No plan is in place.
- Offsite backup and archives. Secondary site has been identified to reconfigure and restart. MTBR > 1 day.
- Offsite backup and archives. Secondary site has been identified to reconfigure and restart. MTBR less than 1 day.
- Distributed facilities are able to pick up load with some degradation of performance.
- Completely redundant hardened site with automatic failover. No disruption of service. Failover is regularly tested and calibrated.

[< previous question](#)

[next question >](#)

[end assessment](#)

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Category D: Availability

Categories:

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Enterprise Service Management

Question D4 (5): Does the continuity of operations plan include procedures for finding, housing, and supporting the technical support staff during an emergency action?

YOU ARE EDITING PLANNED VALUES!

- No plan is in place.
- Support plans include shelter in place.
- Support plans include shelter in place or personal evacuation.
- Evacuation plans are in place, but service would be disrupted during an emergency action.
- Yes, Emergency support or evacuation procedures are in place and tested on a regular basis.

[< previous question](#)

[next question >](#)

[end assessment](#)

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Category D: Availability

Categories:

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Question D5 (5): What percent of threat scenarios have been identified and validated for application to your design?

YOU ARE EDITING PLANNED VALUES!

- No threat scenarios have been considered in the planning.
- Approximately 25 percent of threat scenarios have been considered in the planning.
- Approximately 50 percent of threat scenarios have been considered in the planning.
- Approximately 75 percent of threat scenarios have been considered in the planning.
- A robust set of threat scenarios has been considered in the planning.

[< previous question](#)

[next question >](#)

[end assessment](#)

[< back](#)**Categories:****Services****Service Oriented Architecture****Open Architecture****Scalability****Availability****Heterogeneity Accommodation****Enterprise Service Management****Category E: Heterogeneity Accommodation****Question E1 (2): How do you describe in which way the system will support bandwidth variability and universal utility on the battlefield independent of bandwidth constraints?****YOU ARE EDITING PLANNED VALUES!**

- Only will support High Bandwidth wired LAN connection.
- Multiple versions will be available for low to high bandwidth environments.
- The service has logic that will sense bandwidth availability but cannot adapt and will, thus only notify user of constraints and potential latency issues.
- The service will adapt to bandwidth conditions.
- The will service adapt to delivering end-to-end capabilities over a broad range of bandwidths (from low bit-rate tactical communications to multi-gigabit backbone service), environments (fixed and wireless), and end-user devices (e.g., PDAs, laptops, workstations, mainframes).

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Category E: Heterogeneity Accommodation

Categories:

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Enterprise Service Management

Question E2 (2): Does the system support delivery of capabilities to thin or browser-based clients, especially those that provide adaptability to a variety of disadvantaged edge environments for end-users?

YOU ARE EDITING PLANNED VALUES!

- The program can only support Client server environments.
- The program requires high bandwidth to support thin or browser-based clients via servlets or portlets.
- The program may support low bandwidth to thin or browser-based clients via servlets or portlets.
- The program does support low bandwidth to thin or browser-based clients via servlets or portlets.
- The program will support delivery of capabilities to thin or browser-based clients, especially those that provide adaptability to a variety of disadvantaged edge environments for end-users.

[< previous question](#)

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[end assessment](#)

[< back](#)**Categories:****Services**[Service Oriented Architecture](#)[Open Architecture](#)[Scalability](#)[Availability](#)[Heterogeneity Accommodation](#)[Enterprise Service Management](#)**Category F: Enterprise Service Management****Question F1 (4): Does the service provide instrumentation to enable the service provider to determine the current operational state and performance level of the service?****YOU ARE EDITING PLANNED VALUES!**

- The service does not provide instrumentation to enable the service provider to determine the current operational state and performance level of the service.
- The service does provide instrumentation to partially enable the service provider to determine the current operational state and performance level of the service.
- Scalability, configuration, diagnosing, healing and error logging and recovery require an operator, and operator is assisted by a comprehensive set of instrumentation and tools. Logging of errors is automatic.
- Comprehensive system support and network monitoring provides operator with online configuration and error diagnosing and recovery. Logging is uniform across the domain.
- Automatic and dynamic scalability, self-configuration, self-healing, self-diagnosing, and uniform error logging and recovery are enabled across the net-centric environment.

[< previous question](#)[next question >](#)[end assessment](#)

[< back](#)**Category F: Enterprise Service Management****Categories:****Services****Service Oriented Architecture****Open Architecture****Scalability****Availability****Heterogeneity Accommodation****Enterprise Service Management****Question F2 (4): How do you describe the nature of the service management information made available to consumers and providers of the net-centric environment such the Global Information Grid?****YOU ARE EDITING PLANNED VALUES!**

- No service management information function will be made available to consumers or provider of the service.
- Service level agreements are included in the description of the service, but are not available for runtime use.
- Limited service management information, not including performance metrics and problem/outage status information, will be made available to consumers or providers of the service.
- Service management information, including performance metrics and problem/outage status information, will be made available to consumers and providers of the service.
- SLAs are part of the service descriptor and are based on open standards. The QoS is dynamically available and can be used to match requestors' required SLAs with a provider's QoS. These services are dynamically discoverable and accessed using net-centric core services for discovery, mediation, messaging, and connectivity.

[< previous question](#)[next question >](#)[end assessment](#)

[< back](#)**Categories:****Services****Service Oriented Architecture****Open Architecture****Scalability****Availability****Heterogeneity Accommodation****Enterprise Service Management****Category F: Enterprise Service Management****Question F3 (4): To what extent are protocols and standards being used to collect and disseminate service management information?**

YOU ARE EDITING PLANNED VALUES!

- No service Management function is provided.
- Limited QoS information is available at runtime. It is available only through proprietary interfaces and APIs. SLA is described with program specific formats.
- SLAs are defined with open standard formats and are dynamically discoverable. Mechanisms are available to provide runtime QoS of deployed services using open standards.
- If service Management function is provided, standards used to collect and disseminate service management information, and in what format will it be made available (e.g., SNMP, XML, CIM).
- SLAs are part of the service descriptor and are based on open standards. The QoS is dynamically available and can be used to match requestors' required SLAs with a provider's QoS. These services are dynamically discoverable and accessed using net-centric core services for discovery, mediation, messaging, and connectivity.

[< previous question](#) [next question >](#) [end assessment](#)

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Category F: Enterprise Service Management

Question F4 (4): Has this program provided completed examples of all Service Level Agreements negotiated by this provider with others?

YOU ARE EDITING PLANNED VALUES!

- No Service Level Agreements (SLA) has been or will be negotiated by this service provider with others.
- Some SLAs have been negotiated and provided for other service providers.
- SLAs have been negotiated and provided with other service providers with which it will interoperate.
- A complete list of completed examples of all Service Level Agreements (SLA) negotiated by this service provider with all other service providers and consumers with which it will interoperate has been provided.
- SLAs have been negotiated with all other providers and consumers and are automatically enforced by the infrastructure - the ESB.

[< previous question](#)

[end assessment](#)

End Assessment Returns you to the Summary

- Click “Back” takes you to “Home”
- Note the Assessment is not complete, just the setting of the Planned Values

NCAT™ - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Recycle Bin Mail Print Taskbar Clipboard Calendar Bluetooth

Address http://localhost:8080/ncat/assessment.do Go Links >>

ncoic™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

Summary

You have completed the assessment successfully.

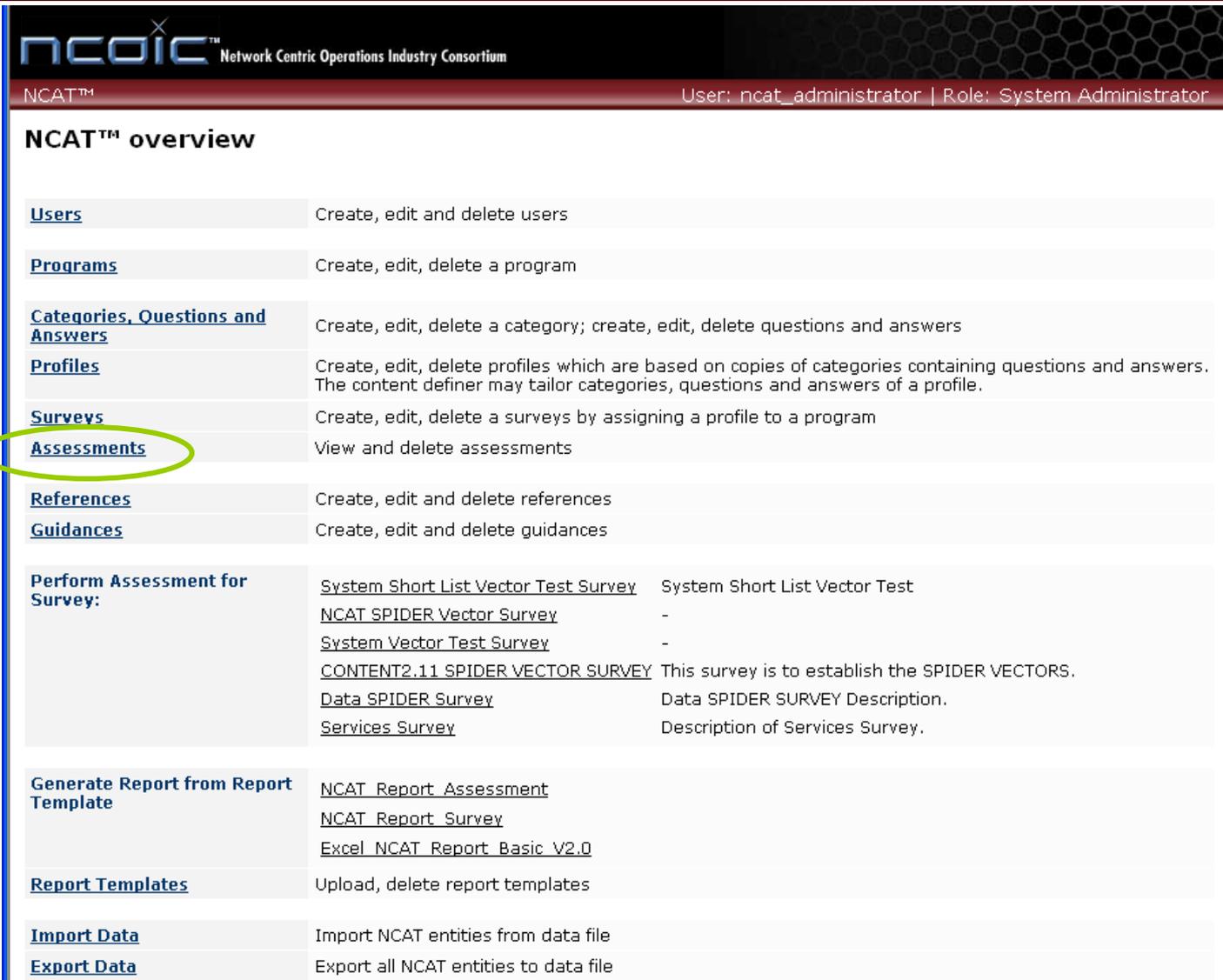
[< back](#)

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Done Local intranet

Back to “Home”

- Click on “Assessments”
- Observe if any assessments are visible for “Services”

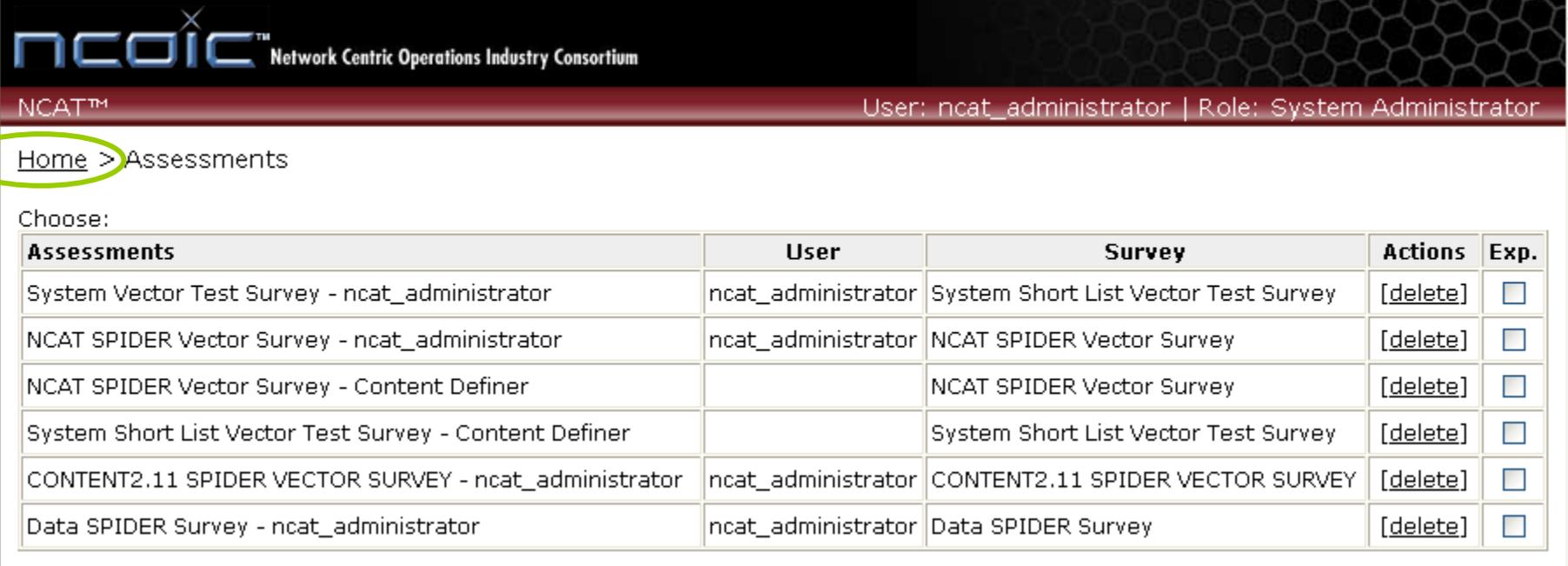


The screenshot shows the NCOIC Network Centric Operations Industry Consortium interface. The top navigation bar includes the NCOIC logo and the text 'Network Centric Operations Industry Consortium'. Below this, the page title is 'NCAT™ overview' and the user information is 'User: ncat_administrator | Role: System Administrator'. The main content area is a list of menu items with their descriptions:

Menu Item	Description
Users	Create, edit and delete users
Programs	Create, edit, delete a program
Categories, Questions and Answers	Create, edit, delete a category; create, edit, delete questions and answers
Profiles	Create, edit, delete profiles which are based on copies of categories containing questions and answers. The content definer may tailor categories, questions and answers of a profile.
Surveys	Create, edit, delete a surveys by assigning a profile to a program
Assessments	View and delete assessments
References	Create, edit and delete references
Guidances	Create, edit and delete guidances
Perform Assessment for Survey:	
System Short List Vector Test Survey	System Short List Vector Test
NCAT SPIDER Vector Survey	-
System Vector Test Survey	-
CONTENT2.11 SPIDER VECTOR SURVEY	This survey is to establish the SPIDER VECTORS.
Data SPIDER Survey	Data SPIDER SURVEY Description.
Services Survey	Description of Services Survey.
Generate Report from Report Template	
NCAT Report Assessment	
NCAT Report Survey	
Excel NCAT Report Basic V2.0	
Report Templates	Upload, delete report templates
Import Data	Import NCAT entities from data file
Export Data	Export all NCAT entities to data file

No Assessments visible for Services

- “Services Assessment” has not been created at this time
- Click on “Home”



ncat™ Network Centric Operations Industry Consortium

User: ncat_administrator | Role: System Administrator

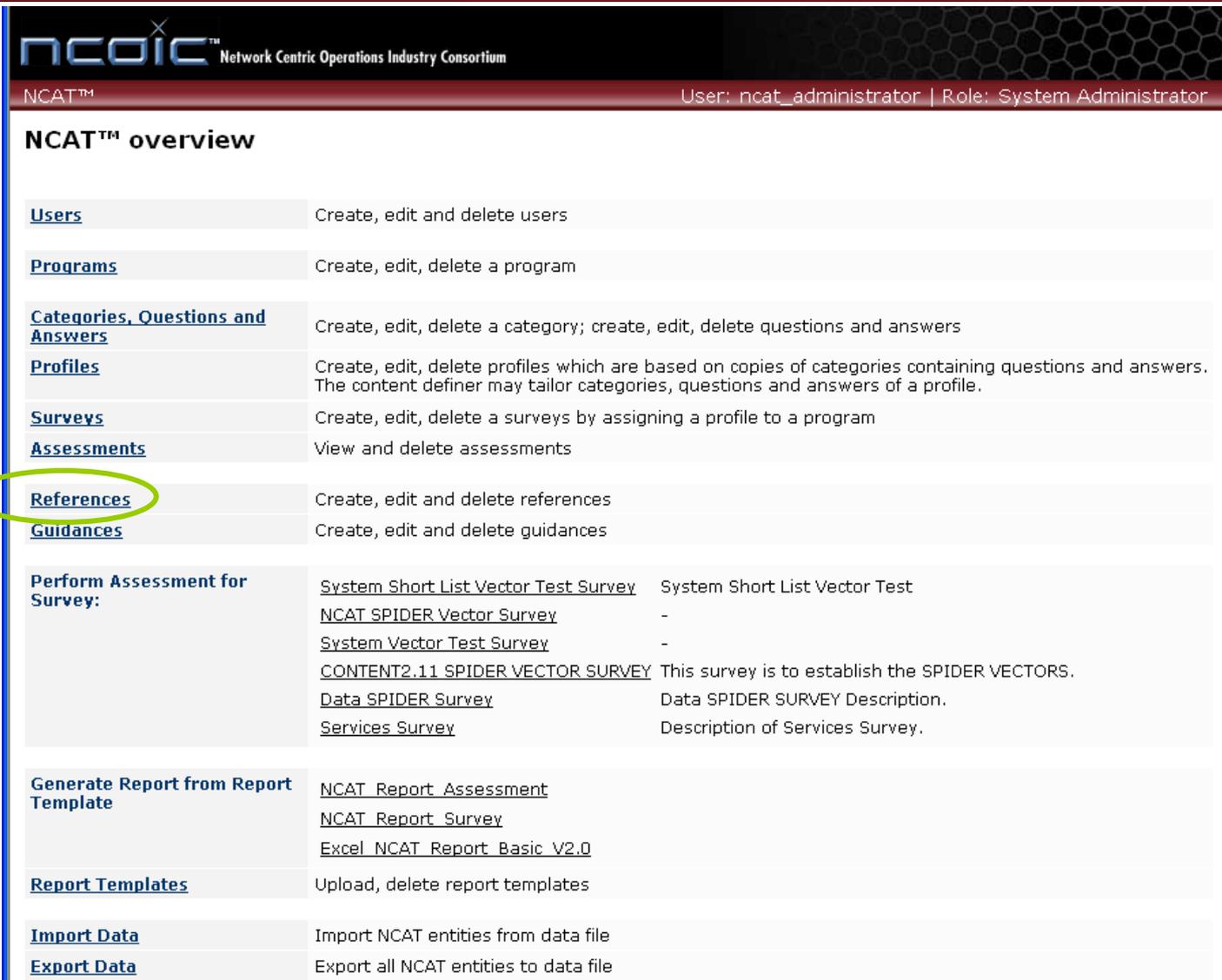
[Home](#) > Assessments

Choose:

Assessments	User	Survey	Actions	Exp.
System Vector Test Survey - ncat_administrator	ncat_administrator	System Short List Vector Test Survey	[delete]	<input type="checkbox"/>
NCAT SPIDER Vector Survey - ncat_administrator	ncat_administrator	NCAT SPIDER Vector Survey	[delete]	<input type="checkbox"/>
NCAT SPIDER Vector Survey - Content Definer		NCAT SPIDER Vector Survey	[delete]	<input type="checkbox"/>
System Short List Vector Test Survey - Content Definer		System Short List Vector Test Survey	[delete]	<input type="checkbox"/>
CONTENT2.11 SPIDER VECTOR SURVEY - ncat_administrator	ncat_administrator	CONTENT2.11 SPIDER VECTOR SURVEY	[delete]	<input type="checkbox"/>
Data SPIDER Survey - ncat_administrator	ncat_administrator	Data SPIDER Survey	[delete]	<input type="checkbox"/>

See if any “References” are defined

- Click on “References”
- Observe if any references are visible



ncat^x™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

NCAT™ overview

Users	Create, edit and delete users
Programs	Create, edit, delete a program
Categories, Questions and Answers	Create, edit, delete a category; create, edit, delete questions and answers
Profiles	Create, edit, delete profiles which are based on copies of categories containing questions and answers. The content definer may tailor categories, questions and answers of a profile.
Surveys	Create, edit, delete a surveys by assigning a profile to a program
Assessments	View and delete assessments
References	Create, edit and delete references
Guidances	Create, edit and delete guidances

Perform Assessment for Survey:

System Short List Vector Test Survey	System Short List Vector Test
NCAT SPIDER Vector Survey	-
System Vector Test Survey	-
CONTENT2.11 SPIDER VECTOR SURVEY	This survey is to establish the SPIDER VECTORS.
Data SPIDER Survey	Data SPIDER SURVEY Description.
Services Survey	Description of Services Survey.

Generate Report from Report Template

NCAT Report Assessment
NCAT Report Survey
Excel NCAT Report Basic V2.0

Report Templates

Upload, delete report templates

Import Data

Import NCAT entities from data file

Export Data

Export all NCAT entities to data file

Setup “References”

- Click on “References”. Currently empty.
- If “Services Reference” is not present, click on “New Reference” to create it

NCAT™ - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://localhost:8080/ncat/main.do?action=referenceIndex> Go Links >>

ncoic™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

Home > References

Choose:

Reference Text	Link	Actions	Exp.
[New Reference]			

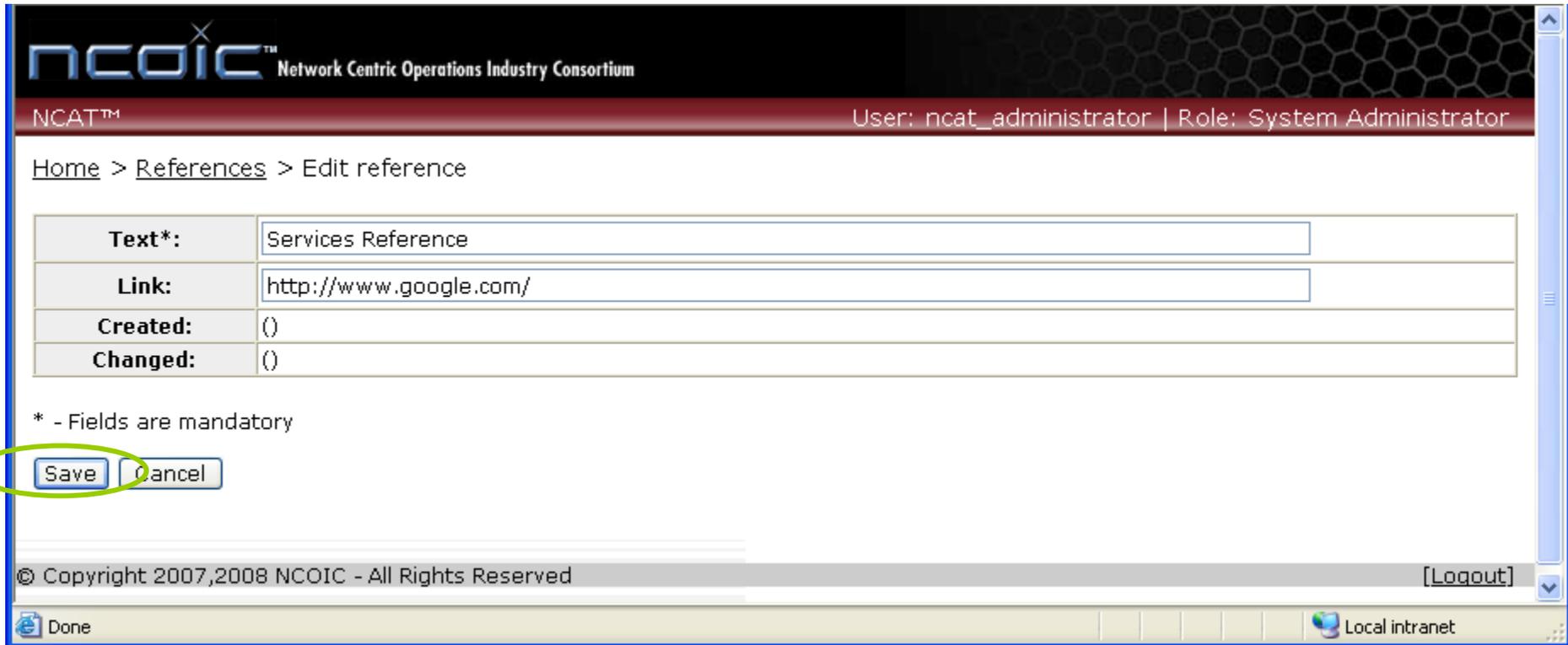
< back Export NCAT entities without referenced entities Export

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Local intranet

Create new “Services Reference”

- Name new item “Services Reference”
- Add a link to “google” and click “Save”



ncoic™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

Home > References > Edit reference

Text*:	Services Reference
Link:	http://www.google.com/
Created:	()
Changed:	()

* - Fields are mandatory

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Done Local intranet

Confirm new “Services Reference”

- Observe new “Services Reference” is created with the link to Google
- Click “back” or “Home” to return “Home”

ncobic™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

[Home](#) > References

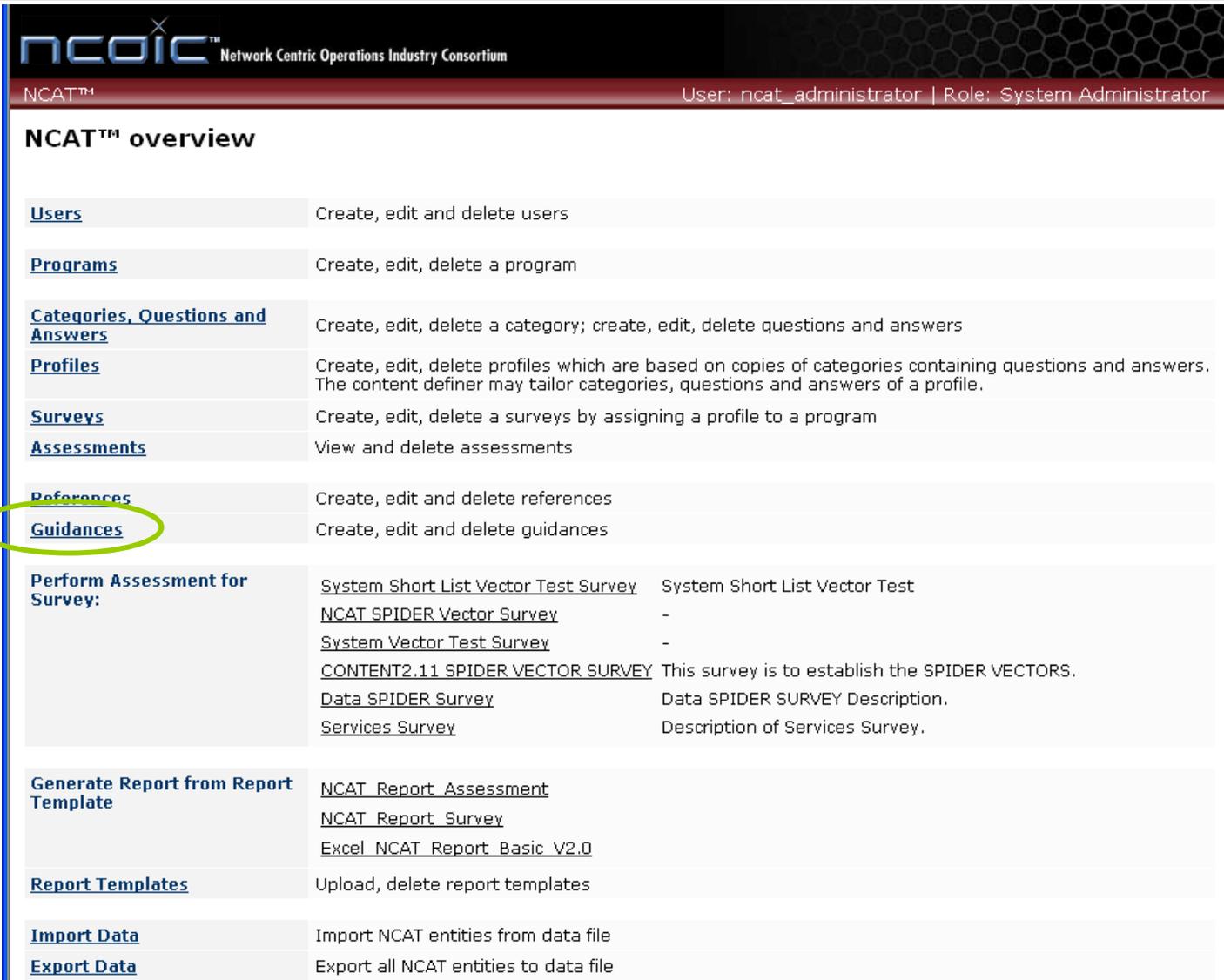
Choose:

Reference Text	Link	Actions	Exp.
[New Reference] Services Reference	http://www.google.com/	[edit] [delete]	<input type="checkbox"/>

[< back](#) Export NCAT entities without referenced entities [Export](#)

See if any “Guidances” are defined

- Click on “Guidances”
- Observe if any “Guidances” are visible



ncoic™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

NCAT™ overview

Users	Create, edit and delete users
Programs	Create, edit, delete a program
Categories, Questions and Answers	Create, edit, delete a category; create, edit, delete questions and answers
Profiles	Create, edit, delete profiles which are based on copies of categories containing questions and answers. The content definer may tailor categories, questions and answers of a profile.
Surveys	Create, edit, delete a surveys by assigning a profile to a program
Assessments	View and delete assessments
References	Create, edit and delete references
Guidances	Create, edit and delete guidances

Perform Assessment for Survey:	System Short List Vector Test Survey	System Short List Vector Test
	NCAT SPIDER Vector Survey	-
	System Vector Test Survey	-
	CONTENT2.11 SPIDER VECTOR SURVEY	This survey is to establish the SPIDER VECTORS.
	Data SPIDER Survey	Data SPIDER SURVEY Description.
	Services Survey	Description of Services Survey.

Generate Report from Report Template	NCAT Report Assessment
	NCAT Report Survey
	Excel NCAT Report Basic V2.0

Report Templates	Upload, delete report templates
-------------------------	---------------------------------

Import Data	Import NCAT entities from data file
Export Data	Export all NCAT entities to data file

Setup new “Guidance”

- If “Services Guidance” is not present, click on “[New Guidance]” to create it.

NCAT™ - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Recycle Bin Mail Print Word Document Video Clip Book Bluetooth

Address <http://localhost:8080/ncat/main.do?action=guidanceIndex> Go Links

ncoic™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

[Home](#) > [Guidances](#)

Choose:

Guidances	Text	Actions	Exp.
[New guidance]			

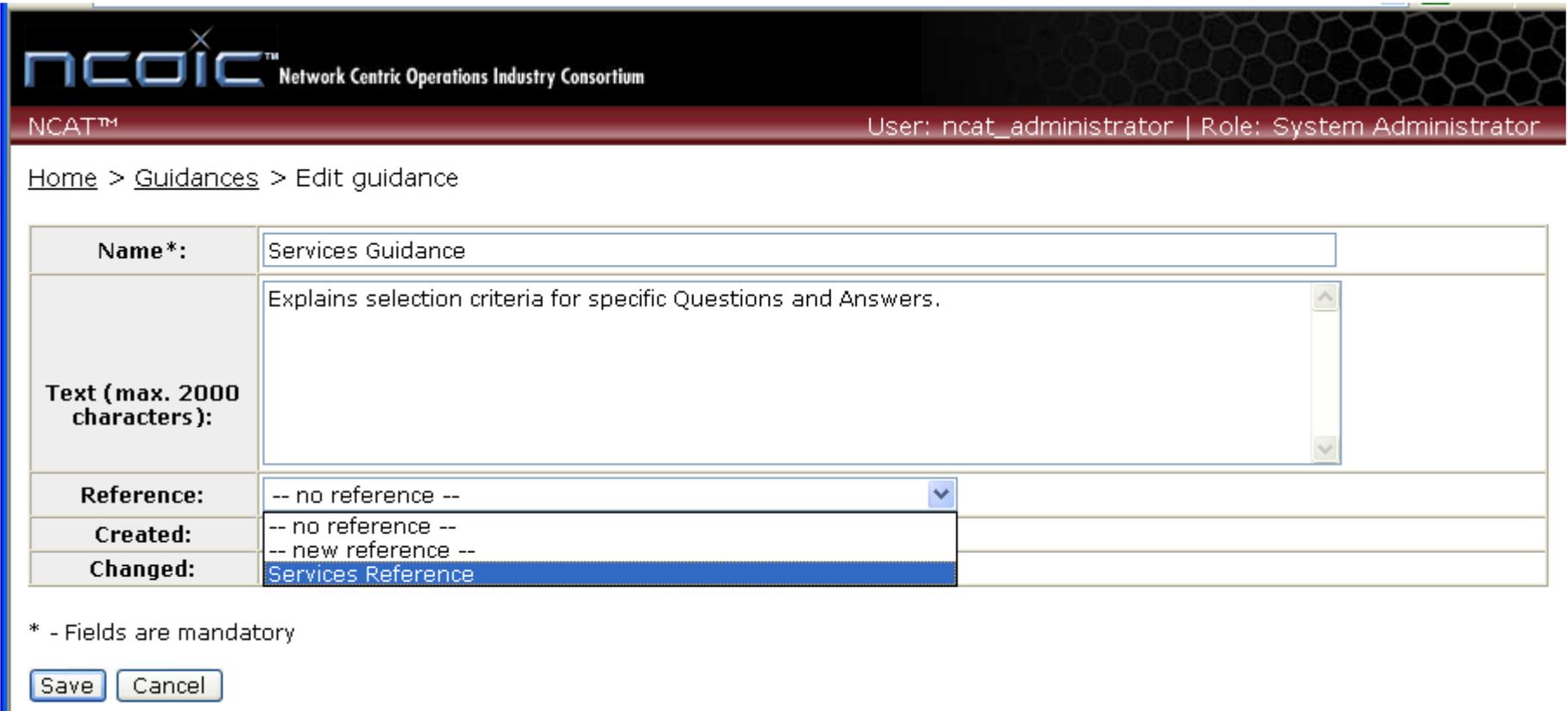
[< back](#) Export NCAT entities without referenced entities [Export](#)

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Local intranet

Setup “Guidances”

- Create “Services Guidance”, add Text
- Use the “Reference” pull down to select available “Services Reference”
- Click “Save” to return to “Guidances”. Confirm “Services Guidance”.



ncoic™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

Home > [Guidances](#) > Edit guidance

Name*:	Services Guidance
Text (max. 2000 characters):	Explains selection criteria for specific Questions and Answers.
Reference:	-- no reference --
Created:	-- no reference --
Changed:	Services Reference

* - Fields are mandatory

Confirm “Services Guidance”

- Confirm new Guidance successfully created.
- Click “back” or “Home” to return to “Home” screen.

ncoic™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

[Home](#) > Guidances

Choose:

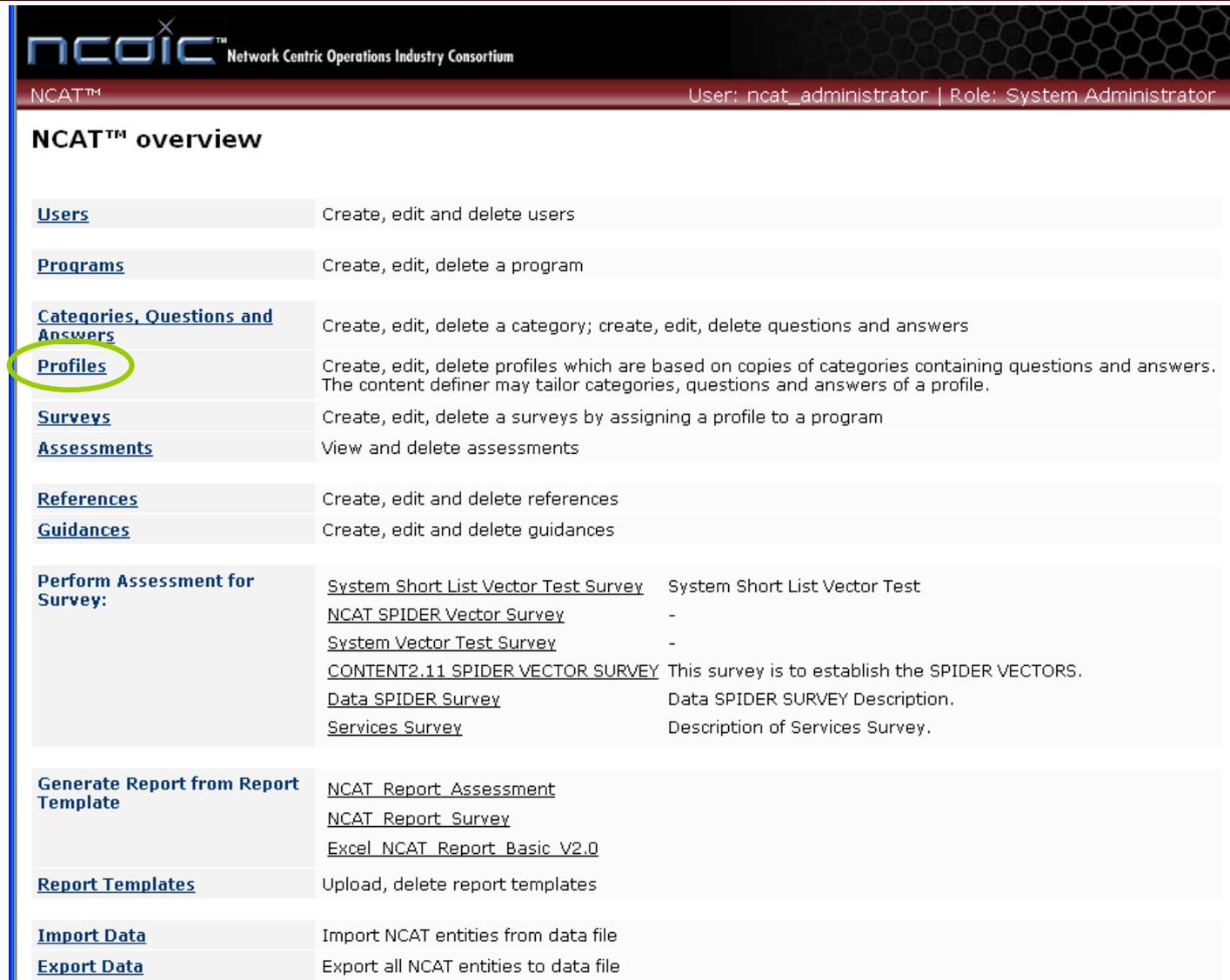
Guidances [New guidance]	Text	Actions	Exp.
Services Guidance	Explains selection criteria for specific Questions and Answers.	[edit] [delete]	<input type="checkbox"/>

[< back](#) Export NCAT entities without referenced entities [Export](#)

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Back to “Home”, Go to “Profiles”

- Click on “Profiles”



ncat[™] Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

NCAT™ overview

Users	Create, edit and delete users
Programs	Create, edit, delete a program
Categories, Questions and Answers	Create, edit, delete a category; create, edit, delete questions and answers
Profiles	Create, edit, delete profiles which are based on copies of categories containing questions and answers. The content definer may tailor categories, questions and answers of a profile.
Surveys	Create, edit, delete a surveys by assigning a profile to a program
Assessments	View and delete assessments
References	Create, edit and delete references
Guidances	Create, edit and delete guidances
Perform Assessment for Survey:	System Short List Vector Test Survey System Short List Vector Test
	NCAT SPIDER Vector Survey -
	System Vector Test Survey -
	CONTENT2.11 SPIDER VECTOR SURVEY This survey is to establish the SPIDER VECTORS.
	Data SPIDER Survey Data SPIDER SURVEY Description.
	Services Survey Description of Services Survey.
Generate Report from Report Template	NCAT Report Assessment
	NCAT Report Survey
	Excel NCAT Report Basic V2.0
Report Templates	Upload, delete report templates
Import Data	Import NCAT entities from data file
Export Data	Export all NCAT entities to data file

Go back to “Services Profile” to link References

- Click on “Services Profile” Actions “modify assigned C/Q/A”



ncat™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

[Home](#) > Profiles

Choose:

Profiles [New profile]	Actions	Exp.
CONTENT2.11 SPIDER VECTOR PROFILE	[edit] [delete] [modify assigned C/Q/A]	<input type="checkbox"/>
Data SPIDER Profile	[edit] [delete] [modify assigned C/Q/A]	<input type="checkbox"/>
NCAT SPIDER Vector Profile	[edit] [delete] [modify assigned C/Q/A]	<input type="checkbox"/>
Services Profile	[edit] [delete] [modify assigned C/Q/A]	<input type="checkbox"/>
System Vector Test Profile	[edit] [delete] [modify assigned C/Q/A]	<input type="checkbox"/>

Go to 1st Category and 1st question

- Click on 1st category “Service Oriented Architecture”

ncoic™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

< back

Services

[Add sub category to selected category.]

Categories:

- Services
 - Service Oriented Architecture
 - Open Architecture
 - Scalability
 - Availability
 - Heterogeneity Accommodation
 - Enterprise Service Management

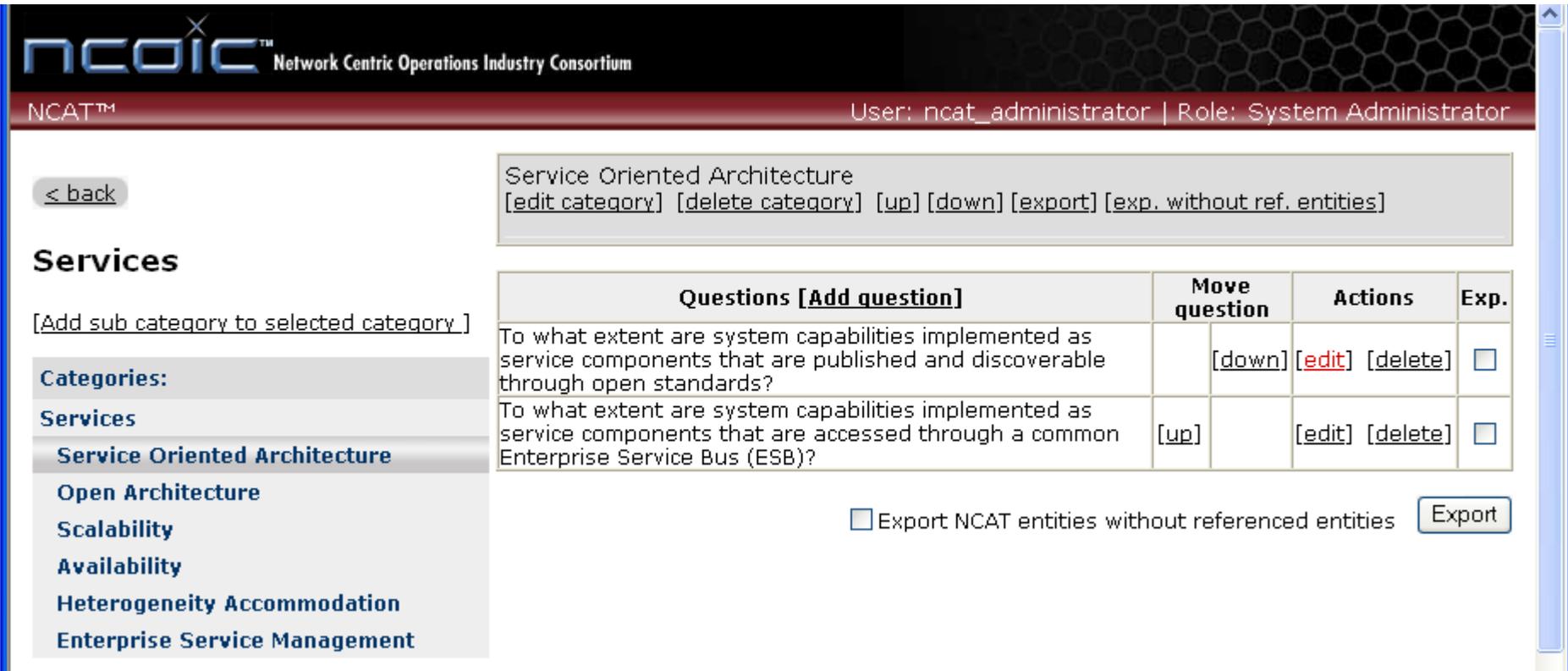
Services

[edit category] [delete category] [up] [down] [export] [exp. without ref. entities]

Questions [Add question]	Move question	Actions	Exp.
No question found. Use "Add question" to add one in this category level.			

Navigate to Question needing reference

- Both questions in “Service Oriented Architecture” are visible
- Click on Actions “Edit” for top Question



The screenshot shows the NCAT™ web interface. At the top, the logo for the Network Centric Operations Industry Consortium (NCOIC™) is displayed. Below the logo, the text "NCAT™" is visible on the left, and "User: ncat_administrator | Role: System Administrator" is on the right. A navigation bar contains a "< back" button. The main content area is titled "Services" and includes a link "[Add sub category to selected category.]". A sidebar on the left lists categories: "Categories:", "Services", "Service Oriented Architecture" (highlighted), "Open Architecture", "Scalability", "Availability", "Heterogeneity Accommodation", and "Enterprise Service Management". The main content area displays a table of questions under the "Service Oriented Architecture" category. The table has columns for "Questions [Add question]", "Move question", "Actions", and "Exp.". Two questions are listed, both with "edit" and "delete" actions. Below the table, there is a checkbox for "Export NCAT entities without referenced entities" and an "Export" button.

Service Oriented Architecture
[edit category] [delete category] [up] [down] [export] [exp. without ref. entities]

Services
[Add sub category to selected category.]

Categories:

- Services
- Service Oriented Architecture**
- Open Architecture
- Scalability
- Availability
- Heterogeneity Accommodation
- Enterprise Service Management

Questions [Add question]	Move question	Actions	Exp.
To what extent are system capabilities implemented as service components that are published and discoverable through open standards?	[down]	[edit] [delete]	<input type="checkbox"/>
To what extent are system capabilities implemented as service components that are accessed through a common Enterprise Service Bus (ESB)?	[up]	[edit] [delete]	<input type="checkbox"/>

Export NCAT entities without referenced entities

Question Expanded to show attributes

- Observe question structure
 - Text
 - Description
 - Must fill with something
 - Weight
 - Reference
 - Pull down to select “Services Reference”
 - Answers
 - Active box
 - Click “Save”

ncoic™ Network Centric Operations Industry Consortium
NCAT™ User: ncat_administrator | Role: System Administrator

Questions of selected category "Service Oriented Architecture "

Home > Categories > Questions of selected category > Edit question

Question text* (max. 1000 characters):	To what extent are system capabilities implemented as service components that are published and discoverable through open standards?																																		
Description (max. 2000 characters):	-																																		
Weight*:	<input type="text" value="1"/>																																		
Reference:	Services Reference Reference link: http://www.google.com/																																		
Answers: Add answer	<table border="1"><thead><tr><th>Answers:</th><th>Scale Value</th><th>Move Answer</th><th>Actions</th><th>Exp.</th></tr></thead><tbody><tr><td>The functionality of the system is not implemented with service components.</td><td>0</td><td>[down]</td><td>[edit] [delete]</td><td><input type="checkbox"/></td></tr><tr><td>The system uses some services through Web Services or Rest.</td><td>30</td><td>[up] [down]</td><td>[edit] [delete]</td><td><input type="checkbox"/></td></tr><tr><td>Many of the systems functions are implemented and deployed as services in a local repository.</td><td>60</td><td>[up] [down]</td><td>[edit] [delete]</td><td><input type="checkbox"/></td></tr><tr><td>The systems functions are deployed and registered in a repository that is accessible for all members of a COI who can use them.</td><td>80</td><td>[up] [down]</td><td>[edit] [delete]</td><td><input type="checkbox"/></td></tr><tr><td>System functionality is implemented by choreographing service invocations dynamically in a workflow that satisfies the mission goal.</td><td>100</td><td>[up]</td><td>[edit] [delete]</td><td><input type="checkbox"/></td></tr></tbody></table>	Answers:	Scale Value	Move Answer	Actions	Exp.	The functionality of the system is not implemented with service components.	0	[down]	[edit] [delete]	<input type="checkbox"/>	The system uses some services through Web Services or Rest.	30	[up] [down]	[edit] [delete]	<input type="checkbox"/>	Many of the systems functions are implemented and deployed as services in a local repository.	60	[up] [down]	[edit] [delete]	<input type="checkbox"/>	The systems functions are deployed and registered in a repository that is accessible for all members of a COI who can use them.	80	[up] [down]	[edit] [delete]	<input type="checkbox"/>	System functionality is implemented by choreographing service invocations dynamically in a workflow that satisfies the mission goal.	100	[up]	[edit] [delete]	<input type="checkbox"/>				
Answers:	Scale Value	Move Answer	Actions	Exp.																															
The functionality of the system is not implemented with service components.	0	[down]	[edit] [delete]	<input type="checkbox"/>																															
The system uses some services through Web Services or Rest.	30	[up] [down]	[edit] [delete]	<input type="checkbox"/>																															
Many of the systems functions are implemented and deployed as services in a local repository.	60	[up] [down]	[edit] [delete]	<input type="checkbox"/>																															
The systems functions are deployed and registered in a repository that is accessible for all members of a COI who can use them.	80	[up] [down]	[edit] [delete]	<input type="checkbox"/>																															
System functionality is implemented by choreographing service invocations dynamically in a workflow that satisfies the mission goal.	100	[up]	[edit] [delete]	<input type="checkbox"/>																															
	<input type="checkbox"/> Export NCAT entities without referenced entities				<input type="button" value="Export"/>																														
Question is active	<input checked="" type="checkbox"/>																																		
Created:	ToXML script version 2008-02-20 (2008-07-08 16:19:23.0)																																		
Changed:	ncat_administrator (2008-07-15 00:57:47.34)																																		

* - Fields are mandatory

Confirm Results of adding Reference

- Taken back to Higher Level
- Observe new Green Ref tag
- Click on Edit again

ncoic™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

[< back](#)

Services
[Add sub category to selected category.]

Categories:

- Services
 - Service Oriented Architecture**
 - Open Architecture
 - Scalability
 - Availability
 - Heterogeneity Accommodation
 - Enterprise Service Management

Service Oriented Architecture
[edit category] [delete category] [up] [down] [export] [exp. without ref. entities]

Questions [Add question]	Move question	Actions	Exp.
To what extent are system capabilities implemented as service components that are published and discoverable through open standards? [Ref.]	[down]	[edit] [delete]	<input type="checkbox"/>
To what extent are system capabilities implemented as service components that are accessed through a common Enterprise Service Bus (ESB)?	[up]	[edit] [delete]	<input type="checkbox"/>

Export NCAT entities without referenced entities [Export](#)

Add Guidance to Answers

- Guidance is not visible until an answer is selected using “edit”
- Guidance aids Assessor in selecting a particular response

Questions of selected category "Service Oriented Architecture "

[Home](#) > [Categories](#) > [Questions of selected category](#) > Edit question

Question text* (max. 1000 characters):	To what extent are system capabilities implemented as service components that are published and discoverable through open standards?					
Description (max. 2000 characters):	-					
Weight*:	<input type="text" value="1"/>					
Reference:	<input type="text" value="Services Reference"/> Reference link: http://www.google.com/					
Answers: [Add answer]	Answers:		Scale Value	Move Answer	Actions	Exp.
	The functionality of the system is not implemented with service components.		0	[down]	[edit] [delete]	<input type="checkbox"/>
	The system uses some services through Web Services or Rest.		30	[up] [down]	[edit] [delete]	<input type="checkbox"/>
	Many of the systems functions are implemented and deployed as services in a local repository.		60	[up] [down]	[edit] [delete]	<input type="checkbox"/>
	The systems functions are deployed and registered in a repository that is accessible for all members of a COI who can use them.		80	[up] [down]	[edit] [delete]	<input type="checkbox"/>
	System functionality is implemented by choreographing service invocations dynamically in a workflow that satisfies the mission goal.		100	[up]	[edit] [delete]	<input type="checkbox"/>
	<input type="checkbox"/> Export NCAT entities without referenced entities					<input type="button" value="Export"/>
Question is active	<input checked="" type="checkbox"/>					
Created:	ToXML script version 2008-02-20 (2008-07-08 16:19:23.0)					
Changed:	ncat_administrator (2008-07-15 00:59:23.355)					

* - Fields are mandatory

Filling in Answer Guidance & Reference

- Observe Answers can have both Guidance and Reference
- Use pull downs for each to select and resave

[Home](#) > [Categories](#) > [Questions of selected category](#) > ["To what extent are system capabilities implemented as service components that are published and discoverable through open standards?"](#) > Edit answer

Answer text* (max. 1000 characters):	<input type="text" value="Many of the systems functions are implemented and deployed as services in a local repository."/>
Explanation* (max. 2000 characters):	<input type="text" value="-"/>
Scale value*:	<input type="text" value="60"/>
Guidance:	<input type="text" value="-- no guidance --"/>
Reference:	<input type="text" value="-- no reference --"/>
Answer is active	<input checked="" type="checkbox"/>
Created:	ToXML script version 2008-02-20 (2008-07-08 16:19:23.0)
Changed:	()

* - Fields are mandatory

Filling in Answer Guidance & Reference

- Observe Answers can have both Guidance and Reference
- Use pull downs for each to select and resave

[Home](#) > [Categories](#) > [Questions of selected category](#) > "To what extent are system capabilities implemented as service components that are published and discoverable through open standards?" > Edit answer

Answer text* (max. 1000 characters):	<input type="text" value="Many of the systems functions are implemented and deployed as services in a local repository."/>
Explanation* (max. 2000 characters):	<input type="text" value="-"/>
Scale value*:	<input type="text" value="60"/>
Guidance:	Services Guidance Guidance text: <input type="text" value="Explains selection criteria for specific Questions and"/>
Reference:	Services Reference Reference link: <input type="text" value="http://www.google.com/"/>
Answer is active	<input checked="" type="checkbox"/>
Created:	ToXML script version 2008-02-20 (2008-07-08 16:19:23.0)
Changed:	ncat_administrator (2008-07-15 01:09:22.215)

* - Fields are mandatory

Confirm Results

- Observe References for the Question and the [Ref] and [Guid] for an answer.
- Click “Save” and return to “Profile” list.
- Click “Home” to start “Assessment”

Questions of selected category "Service Oriented Architecture "

[Home](#) > [Categories](#) > [Questions of selected category](#) > Edit question

Question text* (max. 1000 characters):	To what extent are system capabilities implemented as service components that are published and discoverable through open standards?				
Description (max. 2000 characters):	-				
Weight*:	1				
Reference:	Services Reference Reference link: http://www.google.com/				
Answers: [Add answer]	Answers:	Scale Value	Move Answer	Actions	Exp.
	The functionality of the system is not implemented with service components.	0	[down]	[edit] [delete]	<input type="checkbox"/>
	The system uses some services through Web Services or Rest.	30	[up] [down]	[edit] [delete]	<input type="checkbox"/>
	Many of the systems functions are implemented and deployed as services in a local repository. [Ref.] [Guid.]	60	[up] [down]	[edit] [delete]	<input type="checkbox"/>
	The systems functions are deployed and registered in a repository that is accessible for all members of a COI who can use them.	80	[up] [down]	[edit] [delete]	<input type="checkbox"/>
	System functionality is implemented by choreographing service invocations dynamically in a workflow that satisfies the mission goal.	100	[up]	[edit] [delete]	<input type="checkbox"/>
<input type="checkbox"/> Export NCAT entities without referenced entities					<input type="button" value="Export"/>
Question is active	<input checked="" type="checkbox"/>				
Created:	ToXML script version 2008-02-20 (2008-07-08 16:19:23.0)				
Changed:	ncat_administrator (2008-07-15 00:59:23.355)				

* - Fields are mandatory

Log out as Admin, Log in as “Services”

- Click on Logout to logout as the ncat_administrator
- Prepare to log back in as the Assessor “John Q Services” with a username “Services” and password “ncat”

ncat™ Network Centric Operations Industry Consortium

NCAT™ User: ncat_administrator | Role: System Administrator

NCAT™ overview

Users	Create, edit and delete users												
Programs	Create, edit, delete a program												
Categories, Questions and Answers	Create, edit, delete a category; create, edit, delete questions and answers												
Profiles	Create, edit, delete profiles which are based on copies of categories containing questions and answers. The content definer may tailor categories, questions and answers of a profile.												
Surveys	Create, edit, delete a surveys by assigning a profile to a program												
Assessments	View and delete assessments												
References	Create, edit and delete references												
Guidances	Create, edit and delete guidances												
Perform Assessment for Survey:	<table><tbody><tr><td>System Short List Vector Test Survey</td><td>System Short List Vector Test</td></tr><tr><td>NCAT SPIDER Vector Survey</td><td>-</td></tr><tr><td>System Vector Test Survey</td><td>-</td></tr><tr><td>CONTENT2.11 SPIDER VECTOR SURVEY</td><td>This survey is to establish the SPIDER VECTORS.</td></tr><tr><td>Data SPIDER Survey</td><td>Data SPIDER SURVEY Description.</td></tr><tr><td>Services Survey</td><td>Description of Services Survey.</td></tr></tbody></table>	System Short List Vector Test Survey	System Short List Vector Test	NCAT SPIDER Vector Survey	-	System Vector Test Survey	-	CONTENT2.11 SPIDER VECTOR SURVEY	This survey is to establish the SPIDER VECTORS.	Data SPIDER Survey	Data SPIDER SURVEY Description.	Services Survey	Description of Services Survey.
System Short List Vector Test Survey	System Short List Vector Test												
NCAT SPIDER Vector Survey	-												
System Vector Test Survey	-												
CONTENT2.11 SPIDER VECTOR SURVEY	This survey is to establish the SPIDER VECTORS.												
Data SPIDER Survey	Data SPIDER SURVEY Description.												
Services Survey	Description of Services Survey.												
Generate Report from Report Template	<table><tbody><tr><td>NCAT_Report_Assessment</td></tr><tr><td>NCAT_Report_Survey</td></tr><tr><td>Excel_NCAT_Report_Basic_V2.0</td></tr></tbody></table>	NCAT_Report_Assessment	NCAT_Report_Survey	Excel_NCAT_Report_Basic_V2.0									
NCAT_Report_Assessment													
NCAT_Report_Survey													
Excel_NCAT_Report_Basic_V2.0													
Report Templates	Upload, delete report templates												
Import Data	Import NCAT entities from data file												
Export Data	Export all NCAT entities to data file												

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[Logout]

NCAT Tutorial Recap



- ✓ The user will download the Java Zip files and install the NCAT program
- ✓ The user will log in as the “ncat_administrator” & do the following:
 - ✓ – setup a new User Account for “John Q Services” (username “Services”,
 - ✓ – create a new Program called “Services Program”,
 - ✓ – create a new Profile called “Services Profile”,
 - ✓ – create a new Survey called “Services Survey”,
 - ✓ – set Planned Values, log out



The user will:

- log in a second time as “Services”,
- perform the assessment answering 25 questions
- Run some reports and examine them

Log out as Admin, Log in as “Services”

- Login as “Services” (password = ncat)
- Perform Assessment for “Services Survey”
- Confirm User: “Services” in a Role of “Assessor”
- Note significantly cleaner “Home” screen showing only what this user is setup to accomplish
- Click on “Perform Assessment” for “Services Survey”

NCAT[™] overview

Perform Assessment for Survey:

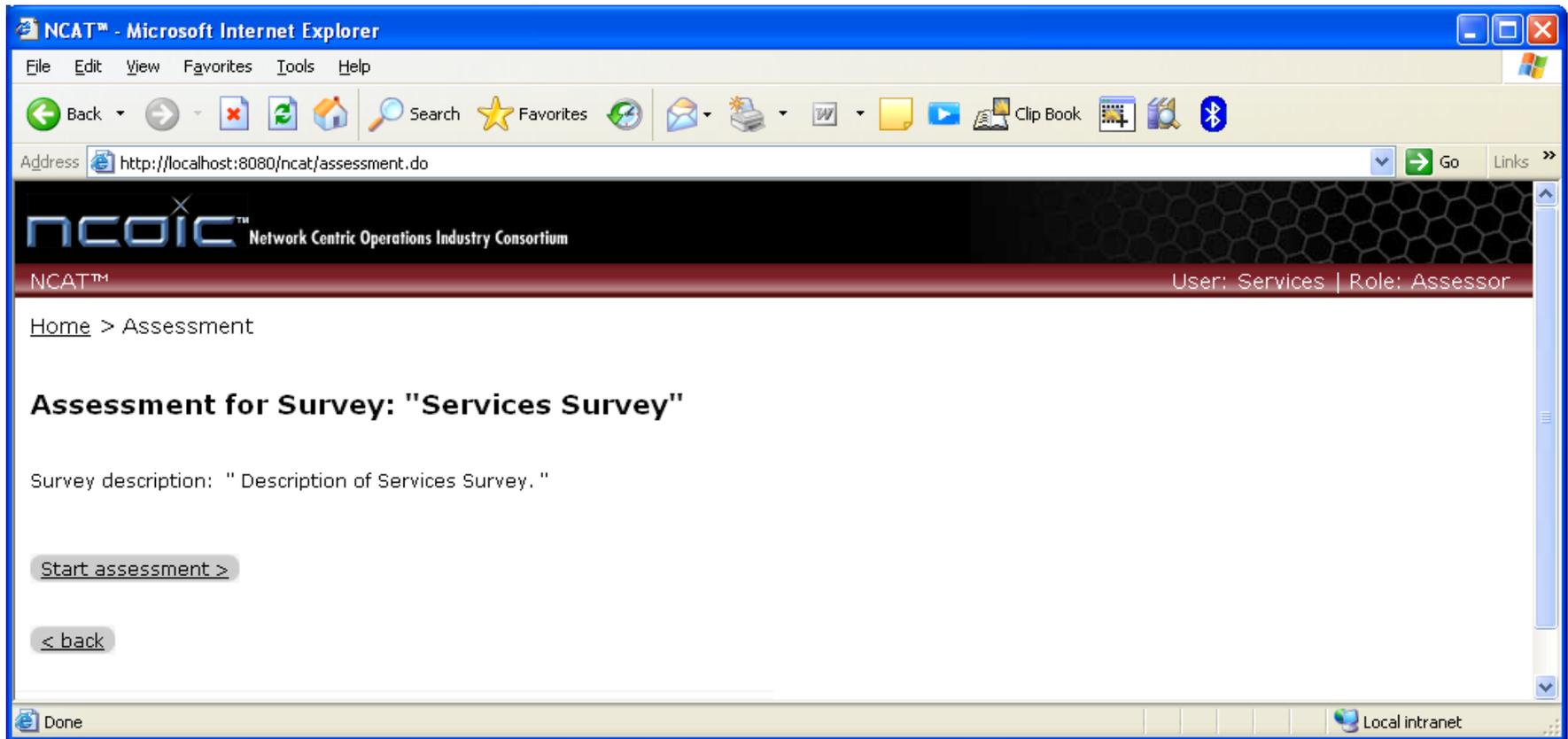
[Services Survey](#) Description of Services Survey.

Generate Report from Report Template

[NCAT Report Assessment](#)
[NCAT Report Survey](#)

Start Assessment

- Click on “Start Assessment”



The screenshot shows a Microsoft Internet Explorer browser window titled "NCAT™ - Microsoft Internet Explorer". The address bar displays "http://localhost:8080/ncat/assessment.do". The page content includes the NCAT logo (Network Centric Operations Industry Consortium) and a navigation bar with "NCAT™" on the left and "User: Services | Role: Assessor" on the right. Below the navigation bar, the breadcrumb "Home > Assessment" is visible. The main heading is "Assessment for Survey: 'Services Survey'", followed by the text "Survey description: ' Description of Services Survey. '". At the bottom of the main content area, there are two buttons: "Start assessment >" and "< back". The status bar at the bottom of the browser shows "Done" and "Local intranet".

Observe 1st question

[< back](#)

Categories:

Services

Service Oriented Architecture

Open Architecture

Scalability

Availability

Heterogeneity Accommodation

Enterprise Service Management

Category A: Service Oriented Architecture

Question A1 (2): To what extent are system capabilities implemented as service components that are published and discoverable through open standards?

-

[reference ...](#)

- The functionality of the system is not implemented with service components.
- The system uses some services through Web Services or Rest.
- Many of the systems functions are implemented and deployed as services in a local repository.
[guidance ...](#) [reference ...](#)
- The systems functions are deployed and registered in a repository that is accessible for all members of a COI who can use them.
- System functionality is implemented by choreographing service invocations dynamically in a workflow that satisfies the mission goal.

Your comments / notes:

[next question >](#)

[end assessment](#)

- Observe
 - reference and guidance boxes show up
 - a comments /notes box is visible
- Answer question
- Click on next question
- Repeat until all 25 questions are answered

Assessment Ends & returns to “Home”

- End of Assessment returns Assessor to NCAT Overview
- End of Assessment by User: “Services”
- It is possible to have multiple Assessors (not covered in this tutorial)
- Click on “NCAT Report Assessment”

The screenshot shows a Microsoft Internet Explorer browser window titled "NCAT™ - Microsoft Internet Explorer". The address bar displays "http://localhost:8080/ncat/main.do". The page content includes the NCOIC logo and the text "Network Centric Operations Industry Consortium". Below this, the text "NCAT™" is displayed on the left, and "User: Services | Role: Assessor" is displayed on the right. The main heading is "NCAT™ overview".

Perform Assessment for Survey:	Services Survey Description of Services Survey.
Generate Report from Report Template	NCAT Report Assessment NCAT Report Survey

At the bottom of the page, there is a copyright notice: "© Copyright 2007,2008 NCOIC - All Rights Reserved" and a "[Logout]" link. The Windows taskbar at the bottom shows "Local intranet".

Java Tutorial Recap

- ✓ The user will download the Java Zip files and install the NCAT program
- ✓ • The user will log in as the “ncat_administrator” & do the following:
 - ✓ – setup a new User Account for “John Q Services” (username “Services”,
 - ✓ – create a new Program called “Services Program”,
 - ✓ – create a new Profile called “Services Profile”,
 - ✓ – create a new Survey called “Services Survey”,
 - ✓ – set Planned Values, log out

The user will:

- log in a second time as “Services”,
- perform the assessment answering 25 questions
- Run some reports and examine them

To Do:

Choose Report Type

- Choose “Services Survey” Assessment performed by username “Services”
- Observe there are three Export Types: PDF, HTML, Word
- Choose Export Type, for this exercise click on “(Word)”

NCAT™ - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://localhost:8080/ncat/main.do?action=report&name=NCAT_Report_Assessment&type=assessment Go Links

ncoic™ Network Centric Operations Industry Consortium

NCAT™ User: Services | Role: Assessor

Please select an assessment you have answered:

Assessments	Export Type
Services Survey - ncat_administrator	(PDF) (HTML) (Word)
Services Survey - Services	(PDF) (HTML) (Word)

< back

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Done Local intranet

Services Survey Assessment Report



Assessment

Assessment Report showing all Information for the specified Assessment

Assessment Information	
<i>Note: The information below is specific to the program being assessed.</i>	
Program Information	
Program Name:	Services Program
Program Purpose:	-
Lead Organization: (e.g. Army, Dia, Industry)	NCAT Functional Team
Program Manager's Information	
Name:	Note: not filled in since "Program Configuration Manager" role was not Established.
Email Address:	
Telephone Number:	
Office Code/Symbol:	
NCAT Assessment Information	
Completion Date: (MM/DD/YYYY)	07/15/2008
Lead Assessor's Information	
Name:	Services
Email Address:	John_Q_Services@Raytheon.com
Telephone Number:	(972) 123-4567
Role in Program:	Assessor
General Role:	

Finding and Using the Legend

Legend	
B Root Category	First Category Element
B_1 Sub Category	Subordinated Category Element
Question	Question element
Answer	Answer from survey
Selected Answer	Answer selected by Assessor
Planned Answer	Expected Answer
Planned and Selected Answer	Selected Answer corresponds to expected Answer

- The Legend is on the very last page of the report.
- Legend explains the color code for reading the assessment results
 - Black means “not selected”
 - Red means “Planned or Expected Value” set by ncat_administrator
 - Blue means “achieved value” selected by the user “Services”
 - Green means the “achieved value” set by the Assessor matches the “Planned or Expected Value” set by the ncat_administrator

A1 To what extent are system capabilities implemented as service components that are published and discoverable through open standards?

The functionality of the system is not implemented with service components.

The system uses some services through web services or REST.

Many of the system's functions are implemented and deployed as services in a local repository.

The system's functions are deployed and registered in a repository that members of a COI who can use them.

System functionality is implemented by choreographing service invocations dynamically in a workflow that satisfies the mission goal.

Use Comments box to log objective evidence or rationale for answer.

Planned

Achieved

Comment

A2 To what extent are system capabilities implemented as service components that are accessed through a common Enterprise Service Bus (ESB)?

No Enterprise Service Bus is used by the system.

Proprietary middle ware provides some of the basic services of an ESB. No specific procedures are in place to ensure uniform compliance.

An ESB is implemented internally that can provide basic services to the platform. Some standards are utilized in the implementation.

An ESB is implemented using widely used open standards that provide all the net-centric core services as well as critical event processing, security services and autonomic capabilities. Most of the system's functionality is implemented as services.

An open standard based COITS ESB that can mediate dynamic requests and match QoS requests with appropriate SLAs in non-real time, near real time and real time and interact with other ESBs deployed on the net-centric environment. The ESB is verified and certified to provide these capabilities. Uniform adoption is assured by comprehensive governance processes.

B1 Is the system architecture based on loosely-coupled interactions, enabling the internal components to map to well-defined external interfaces?

The system is tightly integrated and not modular.

The system is constructed of well defined modules with well defined interfaces, but the interfaces are proprietary or specific to the program.

The system is constructed of well defined modules with well defined interfaces. Interfaces are based on widely used open standards and consistent with the program or platform.

The system is constructed of well defined modules with well defined interfaces. Interfaces are based on widely used open standards and consistent with the COI.

The system is constructed using invoked dynamically discovered services or through choreography of services (or both). Services implemented by this system are deployed and dynamically discoverable on the net-centric environment and accessed using net-centric core services for discovery, mediation, messaging, and connectivity.

E2 Is Web access implemented by the program built using Web Foundational standards: Hypertext Transfer Protocol (HTTP), Hypertext Markup Language (HTML), File Transfer Protocol (FTP), User Datagram Protocol (UDP), Transport Control Protocol (TCP), Internet Protocol (IP), Simple Mail Transfer Protocol (SMTP), Multi-purpose Internet Mail Extensions (MIME), Uniform Resource Locator (URL), and Unicode universal character set?

Web Access is not implemented by this system.

This system utilizes some, but not all of the listed standards.

This system implements and uses Web Access using most or all of their current form. The standards used have been verified to work together.

Planned

Achieved

E3 Are Web services and web access implemented by the program built using Web Emerging Standards or Best Practices: HTTP State Management Mechanism, MIME Encapsulation of Aggregate Documents such as HTML (MHTML), Web Distributed Authoring and Versioning (WebDAV)?

Web Access is not implemented in this system.

This system utilizes distributed components but not web services.

This system utilizes some, but not all of the listed standards.

This system implements and uses Web Services using most or all of the listed standards.

This system utilizes Web Services standards and also utilizes Grid computing standards.

E4 Are Web services and web access implemented by the program built using XML Foundational Standards: XML Namespaces, Extensible Style Language Transformations (XSLT), Extensible Style Language (XSL), XML Path Language (XPath), Cascading Style Sheets (CSS)?

Neither Web Access nor Services is implemented in this system.

This system utilizes distributed components but not web services.

This system utilizes some, but not all of the listed standards.

This system implements and uses Web Services using most or all of the listed standards.

This system utilizes Web Services standards and also utilizes Grid computing standards.

Legend	
B Root Category	First Category element
E_1 Sub Category	Subordinated Category element
Question	Question element
Answer	Answer from survey
Selected Answer	Answer selected by Assessor
Planned Answer	Expected Answer
Planned and selected Answer	Selected Answer corresponds to expected Answer

This system utilizes some, but not all of the listed standards.

This system implements and uses Web Services using most or all of the listed standards.

This system utilizes Web Services standards and also utilizes Grid computing standards.

comment

BS

Are Web services products compliant with WS-Security Profile?

Web Services are not implemented in this system.

Web services that are used are implemented with proprietary interfaces.

Web services use products that are compliant, but configurations are not verified.

Yes, fully compliant and verified.

comment

BF

Are Web services products compliant with the Web Services Interoperability (WS-I) Basic Profile?

Web Services are not implemented in this system.

Web services that are used are implemented with proprietary interfaces.

Web services use products that are compliant, but configurations are not verified.

Yes, fully compliant and verified.

comment

C

Scalability

C1

How many consumers of services deployed by this system are expected?

Web Services are not implemented in this system.

Unknown/estimated.

Empirical evidence shows that the system can support the expected number of consumers.

The system has been formally tested to meet the service level as defined in the specifications and is capable of scaling to meet excess demand.

The system includes automatic detection of increased usage and will automatically increase capacity without human intervention.

comment

C2

How many service invocations of services deployed by this system per hour (or per some appropriate unit of time) are expected?

Web Services are not implemented in this system.

Unknown/estimated.

Empirical evidence shows that the system can support the expected number of service invocations.

The system has been formally tested to meet the service level as defined in the specifications and is capable of scaling to meet excess demand.

The system includes automatic detection of increased service load and will automatically increase capacity without human intervention.

comment

C3

On what assumptions or empirical tests are the above mentioned estimates based?

Web Services are not implemented in this system.

Unknown/estimated.

Historical usage history.

Surveys and agreements have been executed to provide best estimates.

Hardware and software facilities are in place to scale automatically to meet usage and load requirements.

comment

C4

What performance analysis has been done to understand or predict the ability of the service to handle number of end-user consumers?

Web Services are not implemented in this system.

Unknown/estimated.

Empirical evidence shows that the system can support the expected number of consumers.

The system has been formally tested to meet the service level as defined in the specifications and is capable of scaling to meet excess demand.

Hardware and software facilities are in place to scale automatically to meet usage and load requirements.

comment

C5

What performance analysis has been done to understand or predict the ability of the service to handle the expected number of calling services?

Web Services are not implemented in this system.

Unknown/estimated.

Empirical evidence shows that the system can support the expected number of service demands.

The system has been formally tested to meet the service level as defined in the specifications and is capable of scaling to meet excess demand.

Hardware and software facilities are in place to scale automatically to meet usage and load requirements.

comment

D

Availability

D1 Does the program have a continuity of operations plan?

No plan is in place.

Basic plan allows for MTBF and MTB recovery. No testing plan is in place.

Basic plan allows for MTBF and MTB recovery. Testing plan is in place and exercised regularly.

A continuity plan is in place to assure minimal MTBR including regular backups and testing.

A fault tolerant continuity of operations plan is in place and it is exercised on a regular basis with contingency operations also verified.

comment

D2 What is the plan for providing service during routine maintenance (hardware and software)?

No plan is in place.

Schedule outages.

Schedule outages. Regular backups and test of backups is done.

Backup systems are used to carry load while prime system is maintained. Synchronization is manual and requires man in the loop.

Backup systems are used to carry load while prime system is maintained. Synchronization is automatic.

comment

Achieved matches Planned

D3 What is the plan for providing service during catastrophic failures (e.g. massive outages of the power grid, physical destruction of the housing facility)?

No plan is in place.

Offsite backup and archives. Secondary site has been identified to reconfigure and restart. MTBR > 1 day.

Offsite backup and archives. Secondary site has been identified to reconfigure and restart. MTBR less than 1 day.

Distributed facilities are able to pick up load with some degradation of performance.

Completely redundant hardened site with automatic failover. No disruption of service. Failover is regularly tested and call

comment

D4 Does the continuity supporting the technical support plans include site support plans include site

No plan is in place.

Support plans include site

Support plans include site

Legend	
B Root Category	First Category element
E_1 Sub Category	Subordinated Category element
Question	Question element
Answer	Answer from strategy
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Evacuation plans are in place, but service would be disrupted during an emergency action.

Yes, Emergency support or evacuation procedures are in place and tested on a regular basis.

comment

D5 What percent of threat scenarios have been identified and validated for application to your design?

No threat scenarios have been considered in the planning.

Approximately 25 percent of threat scenarios have been considered in the planning.

Approximately 50 percent of threat scenarios have been considered in the planning.

Approximately 75 percent of threat scenarios have been considered in the planning.

A robust set of threat scenarios has been considered in the planning.

comment

E Heterogeneity Accommodation

E1 How do you describe in which way the system will support bandwidth variability and universal quality on the backfield independent of bandwidth constraints?

Only will support High Bandwidth wired LAN connection.

Multiple versions will be available for low to high bandwidth environments.

The service has logic that will sense bandwidth availability but cannot adapt and will, thus only notify user of constraints and potential latency issues.

The service will adapt to bandwidth conditions.

The will service adapt to differing end-to-end capabilities over a broad range of bandwidths (from low bit-rate tactical communications to multi-gigabit backbone services), environments (fibre and wireless), and end-user devices (e.g., PDAs, laptops, workstations, main frames).

comment

E2 Does the system support delivery of capabilities to thin or browser-based clients, especially those that provide adaptability to a variety of disadvantaged edge environments for end-users?

The program can only support Client server environments.

The program requires high bandwidth to support thin or browser-based clients via services or portals.

The program may support low bandwidth to thin or browser-based clients via services or portals.

The program does support low bandwidth to thin or browser-based clients via services or portals.

The program that provide

comment

Achieved matches Planned

D1 Does the program have a continuity of operations plan?

No plan is in place.

Basic plan allows for MTBF and MTB recovery. No testing plan is in place.

Basic plan allows for MTBF and MTB recovery. Testing plan is in place and exercised regularly.

A continuity plan is in place to assure minimal MTBR including regular backups and testing.

A fault tolerant continuity of operations plan is in place and it is exercised on a regular basis with contingency operations also verified.

comment

D2

What is the plan for providing service during routine maintenance (hardware and software)?

No plan is in place.

Schedule outages.

Schedule outages. Regular backups and test of backups is done.

Backup systems are used to carry load while prime system is maintained. Synchronization is manual and requires man in the loop.

Backup system is automatic.

Achieved matches Planned

comment

D3

What is the plan for providing service during catastrophic failures (e.g. massive outages of the power grid, physical destruction of the housing facility)?

No plan is in place.

Offsite backup and archives. Secondary site has been identified to reconfigure and restart. MTBR > 1 day.

Offsite backup and archives. Secondary site has been identified to reconfigure and restart. MTBR less than 1 day.

Distributed facilities are able to pick up load with some degradation of performance.

Completely redundant hardened site with automatic failover. No disruption of service. Failover is regularly tested and calibrated.

comment

D4

Does the continuity supporting the technical

No plan is in place.

Support plans include sit

Support plans include sit

Legend

B Root Category	First Category element
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Question	Question element
Answer	Answer from survey
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Planned and selected Answer	Selected Answer corresponds to expected Answer

Backup plans are in place, but service would be disrupted during an emergency action.

Yes, Emergency support or evacuation procedures are in place and tested on a regular basis.

comment

D5

What percent of threat scenarios have been identified and validated for application to your design?

No threat scenarios have been considered in the planning.

Approximately 25 percent of threat scenarios have been considered in the planning.

Approximately 30 percent of threat scenarios have been considered in the planning.

Approximately 75 percent of threat scenarios have been considered in the planning.

A robust set of threat scenarios has been considered in the planning.

comment

E

Heterogeneity

Accommodation

E1

How do you describe in which way the system will support bandwidth variability and universal utility on the battlefield independent of bandwidth constraints?

Only will support High Bandwidth wired LAN connection.

Multiple versions will be available for low to high bandwidth environments.

The service has logic that will sense bandwidth availability but cannot adapt and will, thus only notify user of constraints and potential latency issues.

The service will adapt to bandwidth conditions.

The will service adapt to delivering end-to-end capabilities over a broad range of bandwidths (from low bit-rate tactical communications to multi-gigabit backbone service), environments (field and wireless), and end-user devices (e.g., PDAs, laptops, workstations, mainframes).

comment

E2

Does the system support delivery of capabilities to thin or browser-based clients, especially those that provide adaptability to a variety of disadvantaged edge environments for end-users?

The program can only support Client server environments.

The program requires high bandwidth to support thin or browser-based clients via servers or portals.

The program may support low bandwidth to thin or browser-based clients via servers or portals.

The program does support low bandwidth to thin or browser-based clients via servers or portals.

The program that provide

Achieved matches Planned

comment

F1 Does the service provide instrumentation to enable the service provider to determine the current operational state and performance level of the service?

The service does not provide instrumentation to enable the service provider to determine the current operational state and performance level of the service.

The service does provide instrumentation to partially enable the service provider to determine the current operational state and performance level of the service.

Scalability, configuration, diagnosing, healing and error logging and recovery require an operator, and operator is assisted by a comprehensive set of instrumentation and tools. Logging of errors is automatic.

Comprehensive system support and network monitoring provides operator with online configuration and error diagnosis and recovery. Logging is uniform across the domain.

Automatic and dynamic scalability, self-configuration, self-healing, self-diagnosing, and uniform error logging and recovery are enabled across the net-centric environment.

comment

F2 How do you describe the nature of the service management information made available to consumers and providers of the net-centric environment such the Global Information

No service management information function will be made available to consumers or provider of the service.

Service level agreements are included in the description of the service, but are not available for routine use.

Limited service management information, not including performance metrics and problem/outage status information, will be made available to consumers or providers of the service.

Service management information, including performance metrics and problem/outage status information, will be made available to consumers and providers of the service.

SLAs are part of the service descriptor and are based on open standards. The QoS is dynamically available and can be used to match requestors' required SLAs with a provider's QoS. These services are dynamically discoverable and accessed using net-centric core services for discovery, mediation, messaging, and connectivity.

comment

F3 To what extent are protocols and standards being used to collect and disseminate service management information?

No service Management function is provided.

Limited QoS information is available at routine. It is available only through proprietary interfaces and APIs. SLA is described with program specific formats.

SLAs are defined with open standard formats and are dynamically discoverable. Mechanisms are available to provide run time QoS or deployed services using open standards.

If service Management function is provided, standards used to collect and disseminate service management information, and in what format will it be made available (e.g., SNMP, XML, CIM).

SLAs are part of the service descriptor and are based on open standards. The QoS is dynamically available and can be used to match requestors' required SLAs with a provider's QoS. These services are dynamically discoverable and accessed using net-centric core services for discovery, mediation, messaging, and connectivity.

comment

F4 Has this program provided completed examples of all Service Level Agreements negotiated by this provider with others?

No Service Level Agreements (SLA) has been or will be negotiated by this service provider with others.

Some SLAs have been negotiated and provided for other service providers.

SLAs have been negotiated and provided with other service providers with which it will interoperate.

A complete list of completed examples of all Service Level Agreements (SLA) negotiated by this service provider with all other service providers and consumers with which it will interoperate has been provided.

SLAs have been negotiated with all other providers and consumers and are automatically enforced by the Infrastructure - the ESB.

comment

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Score Summary

Score Summary

- 25 Total Questions
- Max possible score = 25 x 100 point per question = 2500
- Planned 38.4%
- Achieved 76%
- Observe –
 - Does not have to approach max, just meet or exceed planned

Section	Section	Total Questions Applicable	Total Questions Not Applicable	Max Score	Planned	Score	Normalized
A	Service Oriented Architecture	2	0	200	Planned	70	35.00 %
					Achieved	160	80.00 %
B	Open Architecture	7	0	700	Planned	280	40.00 %
					Achieved	660	94.29 %
C	Scalability	5	0	500	Planned	160	32.00 %
					Achieved	300	60.00 %
D	Availability	5	0	500	Planned	180	36.00 %
					Achieved	325	65.00 %
E	Heterogeneity Accommodability	2	0	200	Planned	100	50.00 %
					Achieved	130	65.00 %
F	Enterprise Service Management	4	0	400	Planned	170	42.50 %
					Achieved	325	81.25 %
	Combined Rating	25	0	2500	Planned	960	38.40 %
					Achieved	1900	76.00 %