



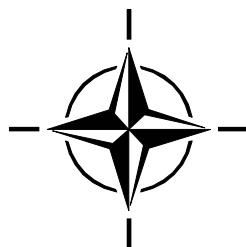
RTO TECHNICAL REPORT

TR-IST-061

Secure Service Oriented Architectures (SOA) Supporting NEC

(Architecture orientée service (SOA)
gérant la NEC)

This Report documents the findings of
NATO/RTO Task Group IST-061.



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- SCI Systems Concepts and Integration Panel
- SET Sensors and Electronics Technology Panel

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Table of Contents

	Page
List of Figures/Tables	ix
List of Acronyms	x
Programme Committee	xii
 Executive Summary and Synthèse	 ES-1
 Chapter 1 – Introduction and Background	 1-1
1.1 Introduction	1-1
1.2 Scope of Work	1-1
1.3 Background of Service Oriented Architectures	1-1
1.4 Technical Specification and Demonstration	1-3
1.5 Scope of the Report	1-3
 Chapter 2 – Application of SOA to Support NEC	 2-1
2.1 NATO NEC Feasibility Study	2-1
2.2 Use of SOA to Support NEC	2-2
2.3 Flexible Security Mechanisms	2-3
2.4 Disadvantaged Grids Challenges	2-3
 Chapter 3 – Service Oriented Architecture Technologies Used	 3-1
3.1 Web Services	3-1
3.2 WSDL	3-2
3.3 SOAP	3-3
3.4 Service Registry – UDDI	3-3
3.5 Publish/Subscribe – WS Notification	3-4
3.6 XML Security	3-5
3.7 MIP/C2IEDM	3-6
 Chapter 4 – The Demonstrator Scenario	 4-1
 Chapter 5 – CWID 2006 Demonstrator and Realization	 5-1
5.1 Global Architecture	5-1
5.1.1 Service Registry	5-2
5.1.2 LDAP	5-2
5.1.3 Security Functionality	5-3
5.1.4 Publish / Subscribe Mechanism	5-3
5.2 Participants' Demonstrators	5-4

5.2.1	EADS (France)	5-4
5.2.1.1	Demonstrator Architecture	5-5
5.2.1.2	Demonstrator Implementation	5-6
5.2.1.3	Interoperability before and during CWID	5-6
5.2.2	Thales (France)	5-7
5.2.2.1	IEG	5-8
5.2.2.2	Application Infrastructure	5-9
5.2.2.3	Demonstrator Capabilities	5-9
5.2.2.4	Demonstrator Implementation	5-9
5.2.2.5	Demonstrator Flexibility	5-11
5.2.3	FFI / Thales (Norway)	5-12
5.2.3.1	End-to-End Security	5-13
5.2.4	Safelayer (Spain)	5-14
5.2.4.1	Demonstrator Description	5-14
5.2.4.2	Demonstrator Architecture	5-15
5.3	List of Test Cases	5-17

Chapter 6 – Results and Lessons Learned **6-1**

6.1	Results from Participants	6-1
6.1.1	Results from Thales (France)	6-1
6.1.2	Results from FFI (Norway) and Thales (France)	6-3
6.1.3	Results from Safelayer (Spain)	6-4
6.1.3.1	Conclusions	6-5
6.1.4	Results from EADS (France)	6-5
6.2	Group-Level Results for IST-061	6-6
6.3	Lessons Learned	6-7

Chapter 7 – Summary and Conclusions **7-1**

7.1	Recommendations for Future NATO Activities	7-2
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Chapter 8 – References **8-1**

Annex A – Demonstrator Specification **A-1**

A.1	Introduction	A-2
A.2	Demonstrator Architecture	A-3
A.3	Use of Web Services Core Standards	A-6
A.3.1	SOAP	A-6
A.3.1.1	Attachments	A-6
A.3.1.2	Potential Issue with SOAP over HTTP	A-6
A.3.2	WSDL	A-6
A.3.3	Message Transport	A-6
A.3.4	UDDI	A-6
A.3.5	Binary XML/Compression Algorithm	A-6
A.3.6	Publish/Subscribe Specifications	A-6
A.4	Publish/Subscribe Specification	A-7

A.4.1	Service Concepts and Features	A-7
A.4.2	Service Architecture	A-7
A.4.3	Publish/Subscribe Protocol	A-7
A.4.4	Design Constraints, Guidelines and Technologies	A-8
A.4.5	Implementation using Web Services	A-8
A.4.6	Potential Asset-COI Relationships	A-10
A.5	Data and Service Model	A-12
A.5.1	Data Model	A-12
A.5.2	Service Model	A-14
A.5.3	Topics Model	A-15
A.6.	Service Registry Specifications	A-16
A.6.1	Architecture	A-16
A.6.1.1	Which Version of UDDI to Use	A-17
A.6.1.2	Abstraction Layer Programmers APIs	A-17
A.6.1.3	Other Decisions	A-17
A.6.2	Use of the UDDI Data Model	A-17
A.6.2.1	The UDDI Data Model	A-18
A.6.2.2	tModels	A-19
A.6.3	What Metadata to Publish about Business Entities	A-19
A.6.3.1	Nations	A-20
A.6.3.2	Assets	A-21
A.6.3.3	COI	A-22
A.6.3.4	Relationships between Nation and Assets	A-23
A.6.3.5	Relationships between Assets and COIs	A-24
A.6.3.6	Relationships between Different Assets	A-24
A.6.4	What Metadata to Publish about Each Service	A-24
A.6.4.1	Metadata about Services in the Registry	A-25
A.6.4.2	Publishing WSDL Information in UDDI	A-29
A.6.5	Modelling of Topics in UDDI	A-36
A.6.5.1	How to Publish this Information into the Service Registry	A-37
A.6.6	Security in UDDI	A-39
A.6.7	Publishing Services into the Registry	A-41
A.6.7.1	Save Services with the publishServices Call	A-41
A.6.7.2	Resetting the Service Registry with resetRegistry Call	A-44
A.6.8	What Extra Search Functionality is Required	A-45
A.6.9	Service Termination Policies	A-45
A.6.10	Searching the Service Registry	A-46
A.6.11	Data Structures in UDDI – Examplified	A-46
A.6.12	References	A-48
A.7.	Security Specification	A-49
A.7.1	Security Architecture	A-49
A.7.2	Security Functionality to be Demonstrated	A-49
A.7.2.1	Security Package 1: XML Security Filtering Between Domains	A-49
A.7.2.2	Security Package 2: Differentiated Access Control of Information Objects	A-50
A.7.2.3	Security Package 3: End-to-End Authentication, Integrity and Confidentiality	A-50

A.7.3	SOAP Message Security	A-51
A.7.3.1	XML Signature Details	A-51
A.7.3.2	XML Encryption Details	A-51
A.7.3.3	Timestamp	A-51
A.7.3.4	SOAP XML Security Label	A-51
A.7.3.5	SOAP Addressing Heading Extension	A-52
A.7.3.6	Elements to be Signed	A-52
A.7.4	XML Security Label Definition	A-54
A.7.4.1	The Information Security Label Syntax and Processing Specification	A-55
A.7.4.2	XML Label Guidance	A-55
A.7.5	Security Privileges	A-55
A.7.5.1	The Privilege Security Label Syntax and Processing Specification	A-55
A.7.5.2	Certificate Extension for the Privilege Security Label	A-56
A.7.5.3	Privilege Label Semantics	A-56
A.7.5.4	Security Label and Privilege Label Matching Rules	A-56
A.7.6	Securing the Web Service Registry	A-56
A.7.6.1	Inquiry API	A-57
A.7.6.2	Publish API: Security Processing of the Security Protection Component	A-58
A.7.6.3	Binding an XML Security Label to the UDDI Records	A-58
A.7.7	Securing the Web Service Provider	A-59
A.7.7.1	Securing WS Notification	A-59
A.7.7.2	Securing Request/Response Interactions	A-60
A.7.8	The XML Security Domain Guard	A-60
A.7.8.1	Outbound Traffic	A-60
A.7.9	PKI	A-60
A.7.9.1	Certificate Management	A-60
A.7.9.2	Certificate Generation	A-61
A.7.9.3	Certificate Distribution	A-61
A.7.9.4	Lifecycle	A-62
A.7.9.5	Revocation Notification	A-62
A.7.9.6	Public Key Certificates	A-63
A.7.9.7	Certificate Revocation Lists	A-66
A.7.9.8	Cryptography	A-68
A.7.9.9	Hash	A-68
A.7.9.10	Available Freeware	A-71
A.7.10	Directory	A-71
A.7.10.1	Main Principles	A-71
A.7.10.2	LDAP DIT	A-71
A.7.10.3	LDAP Servers Deployment	A-71
A.7.10.4	Replication	A-72
A.7.10.5	LDAP Demonstrator Profile	A-73
A.7.10.6	Directory Schema	A-73
A.7.10.7	PKI Management Support	A-73
A.7.10.8	Available Freeware	A-74
A.7.11	Demonstrator Security Policy Identifier	A-75
A.7.12	References	A-75
A.8.	Compression Techniques	A-76

A.8.1	Introduction	A-76
A.8.2	Compression of a SOAP Message	A-76
A.8.2.1	Motivation	A-76
A.8.3	Compression Methods	A-77
A.8.4	Configuration	A-77
A.8.5	References	A-78
A.9.	Other Issues	A-79
A.9.1	Time Zone	A-79
Appendix 1: tModels		A-80
A1.1	Identification String tModel	A-80
A1.2	Service Taxonomy tModel	A-80
A1.3	CoverageArea tModel	A-81
A1.4	Longitude tModel	A-81
A1.5	Latitude tModel	A-82
A1.6	Position tModel	A-82
A1.7	Published tModel	A-82
A1.8	Valid Until tModel	A-83
A1.9	Entity Type tModel	A-83
A1.10	Asset Categorization tModel	A-84
A1.11	topicCategorization	A-84
A1.12	topicSpaceReference	A-85
A1.13	Distinguished Name	A-86
Appendix 2: Features in UDDI V3		A-87
Appendix 3: PKI Profiles		A-88
A3.1	Signature Certificates	A-88
A3.1.1	Signature Certificate Introduction	A-88
A3.1.2	Description of Tables	A-88
A3.1.3	Support Classifications	A-88
A3.1.4	Static Capability	A-89
A3.1.5	Dynamic Capability	A-89
A3.2	Certificate Revocation Lists	A-102
A3.2.1	CRL Introduction	A-102
A3.2.2	Description of Tables	A-102
A3.2.3	Support Classifications	A-103
A3.2.4	Static Capability	A-103
A3.2.5	Dynamic Capability	A-104
Appendix 4: XML Security Label Syntax		A-108
A4.1	Introduction	A-108
A4.1.1	Versions, Namespaces and Identifiers	A-108
A4.2	Security Label Overview and Examples	A-108
A4.2.1	Detached Example	A-109
A4.2.2	Enveloping Example	A-110
A4.2.3	Enveloped Example	A-111

A4.2.4 Core Security Label Syntax	A-111
A4.2.4.1 The SecurityLabel Element	A-112
A4.2.4.2 The LabeledObjectGroup Element	A-113
A4.2.4.3 The ConfidentialityLabel Element	A-113
A4.2.4.4 The SecurityPolicyIdentifier Element	A-114
A4.2.4.5 The SecurityClassification Element	A-114
A4.2.4.6 The PrivacyMark Element	A-114
A4.2.4.7 The SecurityCategory Element	A-114
A4.2.4.8 The dsig:Object Element	A-115
A4.3 Algorithms	A-115
A4.3.1 XPath Filtering	A-115
A4.4 References	A-116
Appendix 5: XML Security Label Guidance and Matching Rules	A-118
A5.1 XML Label Guidance	A-118
A5.1.1 LabeledObjectGroup	A-118
A5.1.2 SecurityPolicyIdentifier	A-118
A5.1.3 SecurityClassification	A-118
A5.1.4 PrivacyMark	A-118
A5.1.5 SecurityCategory	A-118
A5.2 Security Label Matching Rules	A-119
Appendix 6: MTI Tracks Model	A-121
A6.1 MTI Tracks XML Schema	A-121
A6.2 MTI Tracks Additional Information	A-124
Appendix 7: XML Schema for the UDDI Publishing API Extensions	A-129
Appendix 8: Position Service Description	A-133
A8.1 positionService.wsdl	A-133
A8.2 position.xsd	A-134
Appendix 9: The XML Schema of the LDAP Synchronization Component	A-136
Appendix 10: MIP Elements Selection for RTG Demonstration	A-137
A10.1 Attribute Selection	A-138
Appendix 11: Evaluation of Compression Methods	A-148
A11.1 Introduction	A-148
A11.2 Assumptions	A-148
A11.3 Compression/Encoding Techniques Considered	A-148
A11.4 Comparison Methodology	A-149
A11.5 Results	A-149
A11.6 Conclusions	A-153
A11.7 References	A-153
Annex B – Terms of Reference	B-1

List of Figures/Tables

Figures		Page
Figure 3.1	Service Oriented Architecture	3-1
Figure 3.2	UDDI Data Model	3-4
Figure 3.3	Publish/Subscribe Basic Elements in a SOA	3-5
Figure 4.1	Demonstration Participants	4-1
Figure 4.2	Demonstration Area	4-2
Figure 4.3	Exchange between Norway and France	4-3
Figure 5.1	Demonstrator General Overview	5-1
Figure 5.2	Service Registry	5-2
Figure 5.3	LDAP Interaction with SPC	5-2
Figure 5.4	Security in the Global Architecture	5-3
Figure 5.5	Publish/Subscribe Mechanism	5-4
Figure 5.6	Demonstrator Architecture	5-4
Figure 5.7	Demonstrator Interoperability Example	5-6
Figure 5.8	Thales Part of French Demonstrator	5-7
Figure 5.9	French (Thales) IEG	5-8
Figure 5.10	Asynchronous vs. Synchronous	5-11
Figure 5.11	Demonstrator Deployment CWID 2006	5-12
Figure 5.12	Architecture of SP-ATI2	5-16

Tables

Table 4.1	Services Providers and Consumers	4-3
Table 5.1	Components of the Demonstrator	5-10
Table 6.1	Results of Norwegian Demonstration	6-3

List of Acronyms

API	Application Programmer Interface
C2IEDM	C2 Information Exchange Data Model
CFBL	Combined Federated Battle Laboratories
CFBLNet	Combined Federated Battle Laboratories Network
CIS	Communication and Information System
COI	Community of Interest
COTS	Commercial Off The Shelf
CWID	Combined Warrior Interoperability Demonstrator
DPN	Data Publishing Node
ESS	Enhanced Security Services
FFI	Forsvarets Forsknings Institutt (Norwegian Defence Research Establishment)
FGAN	Forschungsgesellschaft für Angewandte Naturwissenschaften (Research Establishment for Applied Science)
FTP	File Transfer Protocol
GW	Gateway
HTTP	Hypertext Transfer Protocol
IEG	Information Exchange Gateway
IETF	Internet Engineering Task Force
IP	Internet Protocol
IS	Information System Technology
IST	Information System Technology
JMS	Java Messaging Service
LAN	Local Area Network
LCC	Land Command Centre
LDAP	Lightweight Directory Access Protocol
MCC	Maritime Command Centre
MCI	Military Communications Institute
MIME	Multipurpose Internet Mail Extensions
MIP	Multilateral Interoperability Programme
NATO	North Atlantic Treaty Organisation
NEC	Network Enabled Capabilities
NNEC	NATO NEC
NNEC FS	NATO NEC Feasibility Study
NO	Norway NATO Open Systems WG
OASIS	Organisation for the Advancement of Structured Information Standards
PKI	Public Key Infrastructure

RFC	Request for Comment
RTA	Research and Technology Agency
RTG	Research Task Group
RTO	Research and Technology Organisation
SMTP	Simple Mail Transfer Protocol
SOA	Service Oriented Architecture
SPC	Security Protection Component
STARS	STructure d'Accueil pour le Renseignement et la Surveillance
TNO	Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek
UAV	Unmanned Aerial Vehicle
UDDI	Universal Description Discovery & Integration
URL	Uniform Resource Locator
WAN	Wide Area Network
WS	Web Services
WSDL	Web Services Description Language
XML	Extensible Markup Language
XMLSEC	XML Security

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14. Abstract	<p>This report describes the work of NATO/RTO IST-061 RTG-027 on “Secure Service Oriented Architectures (SOA) Supporting Network Enabled Capabilities”. The primary focus of this work has been the creation of a demonstrator for tactical data communication in a combined and joint scenario. In this scenario, Service Oriented Architecture technologies have been used to exchange information such as sensor data among different units belonging to different nations.</p> <p>The report explains how SOA technologies can be used to interoperate legacy systems in a way compliant with requirements identified by the NATO NEC Feasibility Study. Additionally, it provides a generic overview over the concepts of SOA and the technologies used in the demonstrator. The demonstrator itself is described from a conceptual point of view as well as on a more detailed level from the perspective of the individual participating organizations and companies.</p> <p>Finally, the results gained through the work of the group are explained, again from a group level perspective and the point of view of each organization or company. From these results, some recommendations for future NATO activities are drawn.</p>		





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