

Service Oriented Privacy Modeling in Enterprises with ISRUP E-Service Framework

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Abstract

At the present time, enterprises are maturing to have Service Oriented Architectures to be more flexible in the changes era. Before everything, they need to refine their privacy policies. The combined privacy policies could be used in a holistic way for Enterprise Architecting issues with the SOA architectural styles. Modeling approaches, vocabularies, and ontologies makes IT/ICT/WEB consultants and enterprise architects encounter with some complex difficulties in the enterprise architecting projects. ISRUP E-Service Framework is proposed and developed based on UML and OCL languages, SOA and RUP terminologies by converge E-Business, E-Commerce and E-Government concepts through just leveraging E-Services.

ISRUP E-Service Framework focuses to facilitate the working of Service Requester, Service Brokers, and Service Providers, in both Provider-Centric SOAs and Consumer-Centric SOA perspectives over a grid. In addition to, ISRUP is an E-Service Framework for agile Enterprise Architecting through Unified Modeling Language (UML) and RUP terminology to improve the enterprise architecture of business enterprises, ISRUP E-Service Framework has 40 enterprise patterns to apply an iterative process for continuous improvement by way of information system architecting.

This paper wants to elaborate one enterprise pattern from ISRUP in which entitled “Architect @ Place” that it emphasizes on security and trusting of distributed hardware and software components in the enterprise's Virtual Private Network in the context of deployment models. UML is used in syntactic, semantic, and pragmatic way to model any negotiations and dynamics. UML's OCL languages is used too as a completer language to specify any constraints which they would be need in enterprise rules. Both part of UML covers any thing to promote the model of privacies.

THE ROLE OF GOVERNMENT TO FACILITATE COMMERCIAL AFFAIRS

E-Government is introduced as fifth issue of E-Commerce strategies in UN report in 2002. Supporting E-Commerce & E-Business business processes to do project are specified as important subject. Government can specify and authorize all of the internet stakeholders to approach E-Commerce strategies as soon as possible [1]. The main goals of developing these strategies are;

- Higher performance from viewpoint of user and enterprises
- Encouraging for better competition
- Clearing for more foreign investment
- Informing & training
- Omitting brokers even E-Broker

The obvious point is that the government isn't a competitor for business centers and it only facilitates and leads businesses to a desired commercial situation. In a systematical view, the government commercial subsystem is just as a coworker agent in a Multi Agent Systems to integrate information and services for businesses and citizens. Other agents could be related to Government, Business and Citizens.

What are depicted in ISRUP E-Service Framework are the relationships that exist between a government and its businesses and the relationships that exist between businesses mutually (B2G2B). All of the transaction and interactions between businesses (B2B) and others are passed through an interoperable space. There are three models as suggestions in the following which existent transactions between a government and its businesses can be communicated as one of them to coordinate the services (Figure 1, 2, and 3).

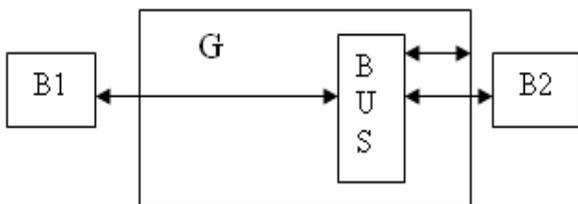


Figure1. Government as a direct supervisor on business transactions

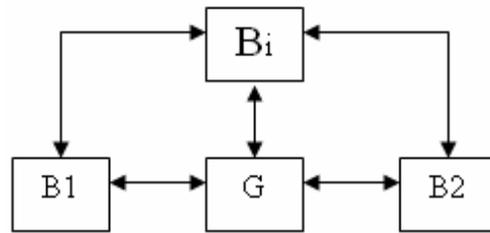


Figure2. Government as a big Business

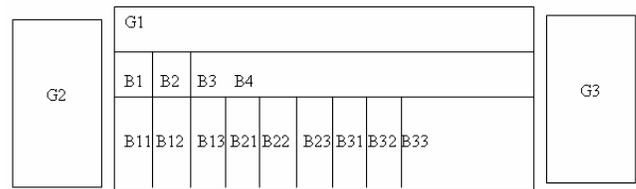


Figure3. Government as a virtual holding company

However, the elaboration of the above models couldn't be here and it is out of the scope of this paper, albeit, in consideration of represented models, Government agent and Bi agents are subsidiaries of electronic laws and conditions, and in view of law allegiance have a behavior same as systematic manner. Difference will be in type of laws and values. In fact proportion of E-Democracy in E-Business will specify governance type of E-Government and in fact;

$$\text{E-Governance} = \text{E-Gov} * \text{E-Democracy}$$

Beside this

$$\text{E-Gov} = \text{G2C} + \text{G2B} + \text{G2G} = \text{G2X}$$

Thereupon

$$\text{E-Governance} = \text{G2X} * \text{E-Democracy}$$

However in universal model E-Commerce discussed more in B2B models, but in analytical models, we also need consideration and measurement of democracy impress in models of other E-Gov models. In technical view Government is considered as one powerful Business with special and specific aims toward other businesses [1, 5, and 9].

ISRUP E-SERVICE FRAMEWORK

It is hard work to specify business domain for every problem, for example E-Citizen, E-Business, and E-Government boundaries specification approximately isn't possible and its better we consider all of the space similar to a set of E-Services at first instead of understand that we will have to design a comprehensive system in final. In fact every partition's electronic business processes of three sets (E-Government, E-Business, and E-Citizen) have its position in space and system. E-Business Processes are considered as perspicuous seeds in architecture and these are E-Business- Processes that specify E-Citizen, E-Business, and E-Government's compass boundary. ISRUP E-Service Framework depicted that the convergence of E-Business, E-Commerce and E-Government as shown in figure 4. Each enterprise that wants to be as a service requester, service provider and service broker, should apply ISRUP enterprise patterns to be success.

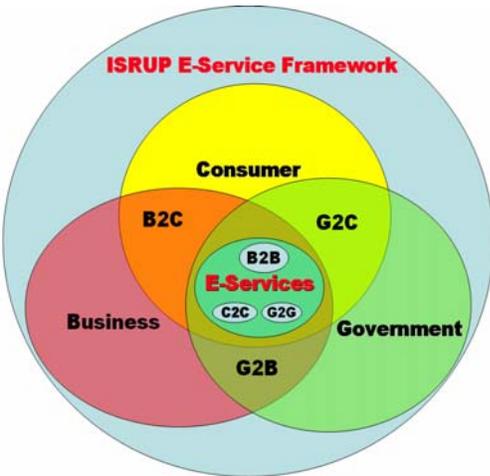


Figure4. ISRUP E-Service Framework

ISRUP is an E-Service Framework for Agile Enterprise Architecting through Unified Modeling Language (UML) and RUP terminology to improve the enterprise architecture of business enterprises, ISRUP E-Service Framework has 40 enterprise patterns to apply an iterative process for continuous improvement by way of information system architecting [3 and 7].

Each enterprise that wants to be as a service requester, service provider and service broker, should apply ISRUP enterprise patterns

to be prosperous. ISRUP stands on Integrated Services-Information Systems based on Rational Unified Process terminology.

ISRUP E-Service framework is used by some parts of government and businesses to make informative and reusable documents as their assets. For more information please see www.isrup.info. [2, 4, and 5]

ISRUP E-SERVICE FRAMEWORK ODYSSEY

ISRUP E-Service Framework is derived from Zachman enterprise architecture framework (Figure 5) and IBM Rational software development process.

The Zachman Framework

	DATA What	FUNCTION How	NETWORK Where	PEOPLE Who	TIME When	MOTIVATION Why	
Objective/ Scope Contextual	List of Things Important in the Business	List of Core Business Processes	List of Business Locations	List of Important Organizations	List of Events	List of Business Goals/Strategies	Objective/ Scope Contextual
Role: Planner							Role: Planner
Enterprise Model Conceptual	Conceptual Data Object Model	Business Process Model	Business Logical System	Work Flow Model	Master Schedule	Business Plan	Enterprise Model Conceptual
Role: Owner							Role: Owner
System Model Logical	Logical Data Model	System Architecture Model	Distributed Systems Architecture	Human Interface Architecture	Processing Structure	Business Role Model	System Model Logical
Role: Designer							Role: Designer
Technology Model Physical	Physical Data Class Model	Technology Design Model	Technology Architecture	Presentation Architecture	Control Structure	Role Design	Technology Model Physical
Role: Builder							Role: Builder
Detailed Representations Out of Context	Data Definitions	Program	Network Architecture	Security Architecture	Tuning Definition	Role Specification	Detailed Representations Out of Context
Role: Programmer							Role: Programmer
Functioning Enterprise	Usable Data	Working Function	Usable Network	Functioning Organization	Implemented Schedule	Working Strategy	Functioning Enterprise
Role: User							Role: User

Figure5. Zachman Framework

ISRUP E-Service Framework mainly uses RUP and UML terminologies respecting to the enterprise architecture documentation. The framework doesn't claim to use the same terms and expressions as Zachman framework and RUP process, but according to the facts in the enterprises (especially Government and Businesses); it has tried to develop framework components with respect to the future technologies (SOA) and the past useful experiences [2, 5, and 8].

ISRUP E-Service Framework consists of 5 views (Stakeholder, Analyst, Architect, Designer and Developer) and 8 models (Proof, Process, Place, People, Period, Purpose, Practice, and Project (8P)) as is depicted in Figure 6 [3, 4, 5, and 6].

View	Proof	Process	Place	People	Period	Purpose	Practice	Project
Introduction								
Analyst								
Architect								
Designer								
Developer								

Figure6. Views and Models of ISRUP E-Service Framework

ISRUP ENTERPRISE PATTERN

An enterprise pattern consists of 3 parts; Context, Activity and Artifact defined as follow.

Activity is what should be done to produce relating artifacts. Activities can be done iteratively and incrementally in order to achieve improvement in enterprises.

Context is the scope in which an enterprise pattern can be defined and elaborated.

Artifact can be like draft, middle or final version of products produced through applying each of the enterprise patterns.

If it were not enough that mining all 40 ISRUP E-Service Framework’s Enterprise Patterns (Table 1) is out of the scope of this paper, but also, it was instantiated {Architect @ Place} Enterprise Pattern as it is depicted in figure 6 as an instance.

ARCHITECT @ PLACE ENTERPRISE PATTERN

Activity:

Define a security hierarchy between software components and hardware components.

Context:

This enterprise pattern emphasizes on security of distributed hardware and software components in the enterprise's Virtual Private Network.

Artifact:

A diagram in which the way of mounting the software components over the hardware components is clarified considering security matters in distributing them (such as an UML deployment diagram).

ISRUP BALANCED SCORECARD

Following table and chart show relatively the significant scores of those methodologies, processes, notations, life cycles and standards rather than ISRUP E-Service Framework score (120) in different presentations as bellow. This benchmark shows that IBM RUP®, ITU-T SG *4, and OMG MDA have got 100, 82, and 74 marks, subsequently [5 and 9].

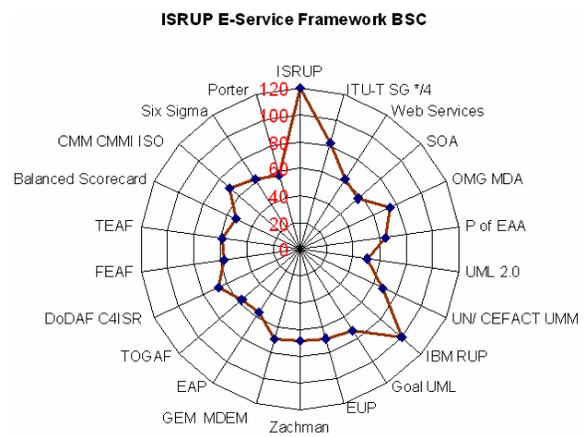


Figure7. ISRUP Balanced Scorecard

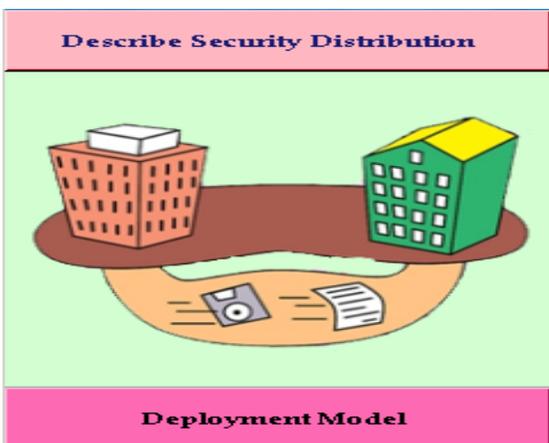


Figure6. {Architect @ Place} Enterprise Pattern of ISRUP E-Service Framework

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Table1. Views, Models, and 40 Enterprise Patterns of ISRUP E-Service Framework

View/Model	Proof	Process	Place	People	Period	Purpose	Practice	Project
Stakeholder	Stakeholder @ Proof	Stakeholder @ Process	Stakeholder @ Place	Stakeholder @ People	Stakeholder @ Period	Stakeholder @ Purpose	Stakeholder @ Practice	Stakeholder @ Project
Analyst	Analyst @ Proof	Analyst @ Process	Analyst @ Place	Analyst @ People	Analyst @ Period	Analyst @ Purpose	Analyst @ Practice	Analyst @ Project
Architect	Architect @ Proof	Architect @ Process	Architect @ Place	Architect @ People	Architect @ Period	Architect @ Purpose	Architect @ Practice	Architect @ Project
Designer	Designer @ Proof	Designer @ Process	Designer @ Place	Designer @ People	Designer @ Period	Designer @ Purpose	Designer @ Practice	Designer @ Project
Developer	Developer @ Proof	Developer @ Process	Developer @ Place	Developer @ People	Developer @ Period	Developer @ Purpose	Developer @ Practice	Developer @ Project