Version 1.0

CEN Workshop Business Plan

“Global eBusiness interoperability test bed methodologies – phase 2” (WS/GITB2)

Status: Adopted in January 2011
1. Status of the Business Plan

It has been adopted at the Workshop kick-off meeting held in Brussels on 18 January 2011.

2. Background to the CEN Workshop GiTB2

While eBusiness specifications are implemented and adopted at EU level and interoperability has become a major requirement to be observed in eBusiness standardization deliverables, we could notice that it is still cumbersome to achieve and demonstrate full compliance with the specified standards. Development of such a testing facility that will accommodate a full set of standards (e.g., within a target profile) and that could efficiently and cost-effectively adopted and adapted to various testing situation and requirements, however, is a significant undertaking that requires use of advanced software development methods and technologies but also collaboration among global stakeholders.

Consequently, there is an increasing need for supporting actions in order to facilitate interoperability and develop and implement state of the art testing methodologies and practices for eBusiness scenarios. This requires clear EU involvement and guidance in addressing eBusiness interoperability (standards) as part of the contribution to this global challenge.

The long-term objective is to develop a comprehensive and global eBusiness interoperability test bed (GiTB). This global test bed would be designed to support eBusiness standards assessment and testing activities from early stages of eBusiness standards implementation, to proof-of-concept demonstrations, to conformance and interoperability testing.

The scope of eBusiness testing are the numerous standards that have been developed and are still under development to address the various layers in the eBusiness interoperability stack:

1. Transport and Communication Layer (Technical interoperability): How do organizations communicate electronically? Relevant specifications range from transport and communication layer protocols like HTTP to higher level protocols such as Simple Object Access Protocol (SOAP) or ebXML Messaging. Is also considers security, reliability and other quality of service protocols and extensions over the transport and communication protocols.

2. Business Document Layer (Semantic interoperability): What type of information do they exchange? Specifications may define the document structure, i.e. the document syntax (e.g. XML), the naming and design rules (e.g. rules for generic business document architecture, as specified by OAGIS BOD architecture) and the assembly of the document (e.g. rules for the assembly of business documents, as defined by OAGIS BOD architecture). They also specify document semantics, i.e. document types and fields (e.g. an XML document definition) and their meaning including reference to external code lists, taxonomies and vocabularies (UN/CEFACT Core Component Library, UBL Component Library). Business rules define restrictions or constraints among data element values.

3. Business Process Layer (Process interoperability): How do the organizations interact? Specifications at this layer describe how business processes are coordinated across organizational boundaries. The business process layer, either presented in a formal business process specification standard such as ebXML Business Process Specification Schema (BPSS) or with an informal workflow definition like flowcharts or interaction diagrams, provides a message choreography, exception flows (error
handling) and other business rules for the eBusiness application roles participating in the process.

CWA 16093:2010 outlines four scenarios for eBusiness testing with different business rationale and stakeholders:

- **Standard development**: to improve the quality of the suggested eBusiness specifications and profiles and their conformance with underlying specifications (e.g. UN/CEFACT Core Components, Naming and design rules for XML messages, messaging profiles ...).
- **Standard adoption and deployment**: to support proof-of-concept demonstrations and system tests / plug tests of the software systems to ensure conformance and interoperability of software vendor’s implementations with the published versions of the eBusiness standard.
- **Onboarding of end-users to electronic B2B processes**: to support end-users of standards in testing conformance and interoperability during “design time” when they setup B2B integration with their business partners.
- **B2B process execution**: to support end-users during the run time of electronic B2B interaction to reduce risks and failures.

The long-term objective is to develop a comprehensive and global eBusiness interoperability test bed (GITB). This global test bed would be designed to support eBusiness standards assessment and testing activities conduct conformance and interoperability testing of eBusiness specifications and their implementation by software vendors and productive implementations of end-users.

The GITB2 Workshop is not intended to become an accreditation/certification authority, but only to provide the tools and methodologies which might be further developed by external stakeholders (for example standards developing organizations) to implement an interoperable test bed system. The global test bed might include a list of easy suites for standards developing organizations. In fact, it is an objective of phase2 to assess interest from international stakeholders and realize the test bed system at a global scale.

In order to realize the long-term objective, three different phases are detected:

- **Phase 1 - Feasibility study for a global eBusiness interoperability test bed**
  - Result: Publication of a CEN Workshop Agreement providing gap analysis of testing requirements and capabilities, Analysis of benefits, costs and risks.
- **Phase 2 - Conceptualization of a global eBusiness interoperability test bed**
  - Result: Publication of a CEN Workshop Agreement providing a recommended architecture and process to develop the test bed
- **Phase 3 – Realization of a global eBusiness interoperability test bed**
  - Result: Testbed

This CEN Workshop addresses the GITB second phase and builds on the results of phase 1, which ended in 2009. Results of GITB Phase 1 are published in the CWA 16093:2010.  

3. Workshop proposers and Workshop participants

The CEN Workshop GITB2 is proposed by CEN, NIST, AIAG, Building Smart (former IAI), Korbit, ETSI and EIC (Enterprise Interoperability Centre), which have a strong interest in eBusiness testing and have already been involved in the first phase.

The following target groups will be invited to join the Workshop:

- End-users
- Industry consortia and formal standards development organizations
- Software vendors
- National governments and EU representatives.
- Research centres
- Certification service providers
- Testing experts
- Centers providing testing facilities

4. Workshop objectives

The aim of the GITB second phase is to further conceptualize and elaborate the suggested approaches to architecting and implementing global eBusiness interoperability test bed. In addition, GITB2 will develop a collaboration model for the decentralized implementation of the global eBusiness interoperability test bed as a network of testbeds and test services.

Based on the phase 1 feasibility study, the following features are key aspects of a Global eBusiness Interoperability Test Bed and need to be addressed by an appropriate architecture in phase 2:

- **A Generic Framework**: The global testbed will be a software framework, that is, it will include support programs, code libraries, scripting languages or other software to help develop and glue together the different components of the system. Various parts
of the framework will be exposed through interfaces. Current eBusiness standards specify a variety of protocols, content format or choreographies. In order to support all of these and test them, the testbed should be adaptable and modular. Therefore, it is necessary to define interfaces for several layers and facilitate plug-in modules supporting different protocols or formats implementing the specified interfaces;

- **Standardised and innovative testing methodologies** to ensure the successful development of an automated interoperability test bed based on distributed testing approaches. In particular the GITB project is paying attention in studying standardized testing methodologies to apply on eBusiness.

- **Full Automation of Test Process**: Partly automating the test process, that is, providing different tools for certain layers of the interoperability stack and doing the rest manually results in human labor intensive, error prone, costly to develop test processes. Automation of testing also implies the non-interference with the system in its native state of execution. The Global Testbed aims testing the organizational interoperability and provide a holistic approach by involving configuration management and other preliminary test steps into the testing process;

- **Ease of Design**: The testbed will aim at the “low cost of entry” for its users and hence provide a graphical environment where a test designer can assemble the reusable test constructs for conformance and interoperability tests;

- **Ease of Maintenance**: Standard development is a continuous process and a new version may be published each year with some additions or updates on several parts of the standard. Furthermore, for certification or annual test events test cases need to be updated to prevent possible specific adjustments in the System under Test to pass the tests with some specific requirements. Therefore, the Global Testbed should provide easy maintenance for the test cases;

- **Testing Anywhere, Anytime**: At the age of Internet, interoperability and conformance testing should not be restricted in time and place. Vendors should be able to test their products over the Web anytime, anywhere and with any party willing to do so. In this way, not only the vendors, but also the customers who plan to buy or who already install the products in their premises can use such testing services;

- **Detailed Reporting**: One of the main objectives of the Global Testbed in testing should be helping vendors to identify their errors, non-conforming, non-interoperable parts according to a standard. Therefore, the testbed should aim detailed reporting of each step in the testing process;

- **Reduce Time Spent in Testing**: Considering the amount of test cases to cover the conformance or interoperability testing requirements of a standard, it is self-evident that the time spent by participants during the testing process should be significantly reduced;

- **Reusability and Testing Integrations**: Currently, there have been conformance and interoperability testing tools and initiatives (e.g. NIST Business Document Content testbed, KorBIT ebMS testbed) for some specific standards addressing one or some

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2 In ETSI White Paper No. 3 Achieving Technical Interoperability - the ETSI Approach, it is defined as “Organizational Interoperability, as the name implies, is the ability of organizations to effectively communicate and transfer (meaningful) data (information) even though they may be using a variety of different information systems over widely different infrastructures, possibly across different geographic regions and cultures.”
layers of the interoperability stack. However, some initiatives which publish interoperability profiles covering a set of standards for different layers of the interoperability stack have been established. Therefore, the Global Test Bed will support integrated testing and enhance the reusability of test materials and the pluggable modules in integrated tests.

The intention is to continue the project as a global activity with American and Asian partners. In order to address the requirements of industry users, the project will primarily use test cases from the automotive, public procurement and health care domains. The choice of these sectors was done in phase 1.

The identified testing requirements and capabilities will form the basis for a more detailed conceptualization of the future architecture of a global test bed. The implementation of the Global eBusiness Interoperability Test Bed will be realized in a third project phase and is subject to a Go-/No Go- decision.

5. Workshop programme and deliverables

A new CEN Workshop has been set up with a duration of 12 months (January - December 2011). The kick-off meeting was at the CEN CENELEC Management Centre in Brussels on 18 January 2011.

Working language is English. The CWA will be drafted and published in English.

Deliverables:
- **Interim report (by 30 June 2011) covering:**
  1. synthesis of alternative architectural solutions;
  2. outline of the target architecture;
  3. validation of the target architecture and approach based on the use cases (for use cases see CWA 16093:2010)

- **Final report (by 31 December 2011) containing the final version of the CEN Workshop Agreement and a Management Report on the work carried out for the execution of the action. The CWA will cover:**
  1. Final version of the recommended architecture and process to develop the test bed;
  2. A global cooperation model based on the expressed intent of support of the key international organizations;
  3. The key components of a global eBusiness interoperability test bed;
  4. The outline of a testing methodology.

Detailed work programme

| Task 1 – To launch CEN Workshop and appoint project team | Oct10-Jan2011 |
| Task 2 – Working phase1 to prepare draft interim report | Feb-June2011 |
| Task 3 – To present and discuss interim report with WS | June 2011 |

  **Milestone: Workshop meeting**

| Task 4 – Working phase2 to enhance report and draft final CWA | June-Sep 2011 |
Task 5 – public comment period on draft CWA  
Milestone: Open meeting  
Oct-Nov 2011

Task 6 – to finalise CWA including comments received during  
Open meeting  
Dec 2011

Task 7 To run ongoing market activities  
Jan-Dec 2011

Task 8 CWA endorsement  
Dec 2011

Work already delivered CWA 16093:2010

6. Workshop structure

The Workshop organization comprises a Workshop Chair, a Workshop Secretary and a Project Team of seven experts.

Mr Nenad Ivezic, NIST, has been elected Workshop Chair. A Project Team of 7 experts has been appointed following an open call announced on the CEN web site.

7. Resource requirements

All costs related to the participation of interested parties in the Workshop’s activities have to be borne by themselves.

The Chairman will work on voluntary basis. EC/EFTA funding for the Secretariat, for the Project team (a total of 310 man days), for the maintenance of the GITB website and for the organization of an open meeting is available.

8. Related activities, liaisons, etc.

The Workshop will liaise with testing activities in ETSI group, NIST, KORB1T, OASIS TAMIE with CEN BII, PEPPOL, HL7, AIAG…

Liaisons groups will be invited to report at next Workshop meetings and discussion on further collaboration will be pursued.

3 http://www.ebusiness-testbed.eu/home/
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