ISO/IEC JTC 1 N 9224   2008-07-31

ISO/IEC JTC 1
Information Technology

Document Type:	**Proposed NP**
Document Title:	**SC 31 Proposal for a New Work Item, Information technology -- Automatic identification and data capture techniques -- Mobile item identification and management -- Service broker for Mobile AIDC services**
Document Source:	**SC 31 Secretariat**
Reference:	
Document Status:	**This document is circulated to JTC 1 National Bodies for concurrent review. If the JTC 1 Secretariat receives no objections to this proposal by the due date indicated, we will so inform the SC 31 Secretariat.**
Action ID:	**ACT**
Due Date:	**2008-10-31**
No. of Pages:	**22**

ISO/IEC JTC 1/SC 31

Automatic Identification and Data Capture Techniques

Secretariat: ANSI (USA)

DOC TYPE:	**New Work Item Proposal**
TITLE:	**Information technology -- Automatic identification and data capture techniques -- Mobile item identification and management -- Service broker for Mobile AIDC services**
SOURCE:	**National Body of the Republic of Korea**
PROJECT:	
STATUS:	**Per Resolution 5 of the Seoul Plenary Meeting, P-Members are requested to use the attached form (SC031 - Form 13B Comment Document.doc) for submission of comments on any project ballot.**
	P-Members are requested to review the referenced documents and cast a vote via the SC 31 Balloting System (LiveLink) by the due date indicated.
ACTION ID:	**COM**
DUE DATE:	**2008-10-30**
DISTRIBUTION:	**ISO/IEC JTC 1/SC 31 members**
MEDIUM:	**ISO TC Portal (LiveLink)**
NO. OF PAGES:	**20 (including this cover)**

New Work Item Proposal

July 2008

PROPOSAL FOR A NEW WORK ITEM

Date of presentation of proposal: 2008-07-21	Proposer: KATS National Body of Republic of Korea
Secretariat: ANSI	**ISO/IEC JTC 1 N** XXXX ISO/IEC JTC 1/SC 31 N 2595

A proposal for a new work item shall be submitted to the secretariat of the ISO/IEC joint technical committee concerned with a copy to the ISO Central Secretariat.

Presentation of the proposal

Title (subject to be covered and type of standard, e.g. terminology, method of test, performance requirements, etc.)

Information technology-Automatic identification and data capture techniques – Mobile item identification and management – Service broker for Mobile AIDC services

Scope (and field of application)

Service providers may require that typical Mobile AIDC functions such as UII identification (identifying the kind of UII and its structure) and UII resolution (resolving UII into an information resource identifier like URL) be performed in a service broker on behalf of Mobile AIDC terminal. In this case, it is enough for Mobile AIDC terminals to read a UII from a RFID tag or barcode label and to pass the UII to the service broker, and then the service broker performs the UII identification and UII resolution functions.

This work item specifies the following items to define the service broker for Mobile AIDC services:

- functional requirements of service broker;

- interface between Mobile AIDC terminal and service broker;

- interface between service broker and ODS (Object Directory Service); and

- operation procedure using service broker.

Purpose and justification - attach a separate page as annex, if necessary

If a new UII scheme is created and widely used in Mobile AIDC services or a new UII resolution protocol is developed, Mobile AIDC terminals should modify existing functions to understand new UII schemes and a new UII resolution protocol.

But if the service broker is deployed, it performs both UII identification and UII resolution and Mobile AIDC terminals can read only a UII from a RFID tag or barcode label and will consult the service broker for remaining functions. This means that adding or modifying relevant functions to understand a newly created UII scheme or UII resolution protocol should be adapted to the service broker.

Eventually, the service broker can make Mobile AIDC terminal's functionalities simple and enable easy adoption of new UII schemes and UII resolution to Mobile AIDC services.

In addition, there are various types of Mobile AIDC terminals. If the service broker can acquire the specific features of a Mobile AIDC terminal such as display resolution and supported language, then user-oriented service provisioning such as service filtering, media transformation, data translation, etc. can be provided easily by the service broker according to Mobile AIDC terminal features. Considering Mobile AIDC terminal features and UII resolution result, the service broker can determine whether the service is available to a requesting Mobile AIDC terminal or not. If the service is not available, the service is filtered out by the service broker.

Programme of work

If the proposed new work item is approved, which of the following document(s) is (are) expected to be developed?
__X__ a single International Standard
____ more than one International Standard (expected number: ....)
____ a multi-part International Standard consisting of .... parts
____ an amendment or amendments to the following International Standard(s) ....
____ a technical report, type...........

And which standard development track is recommended for the approved new work item?
_X__a. Default Timeframe
____b. Accelerated Timeframe
____c. Extended Timeframe

Relevant documents to be considered

ISO/IEC JTC 1/SC 31/WG 6 N 0035r1

Co-operation and liaison

ISO/IEC JTC 1/SC 31/WG 6

Preparatory work offered with target date(s) :

The Republic of Korea is pleased to be the sponsoring member for this work item and proposes Mr. Sangkeun Yoo as the project leader/editor of this deliverable.

Contact Details: Sangkeun Yoo, ETRI, Gajeongno 138, Yuseong-gu, Daejeon City, 350-700, Republic of Korea; Email: lobbi@etri.re.kr; Tel: +82 42 860 1685; Fax: +82 42 861 5404

Signature: Raymond Delnicki, ISO/IEC JTC 1/SC 31 Secretariat

Will the service of a maintenance agency or registration authority be required? ....No..............
- If yes, have you identified a potential candidate? ....
- If yes, indicate name ....

Are there any known requirements for coding? .....No................
-If yes, please specify on a separate page

Does the proposed standard concern known patented items? ....No...........
- If yes, please provide full information in an annex

Are there any known accessibility requirements and/or dependencies (see:
http://www.jtc1access.org)? ....No.........
-If yes, please specify on a separate page

Are there any known requirements for cultural and linguistic adaptability? ....No...........
-If yes, please specify on a separate page

Comments and recommendations of the JTC 1 or SC 31 Secretariat - attach a separate page as an annex, if necessary

Comments with respect to the proposal in general, and recommendations thereon:
It is proposed to assign this new item to JTC 1/SC 31/WG 6.

Voting on the proposal - Each P-member of the ISO/IEC joint technical committee has an obligation to vote within the time limits laid down (normally three months after the date of circulation).

Date of circulation: 2008-07-30	Closing date for voting: 2008-10-30	Signature of Secretary: Lisa Rajchel

NEW WORK ITEM PROPOSAL - PROJECT ACCEPTANCE CRITERIA		
Criterion	**Validity**	**Explanation**
A. Business Requirement		
A.1 Market Requirement	Essential ___ Desirable _X__ Supportive ___	This work item enables service providers to make/use lightweight Mobile AIDC and put value added functions to service broker.
A.2 Regulatory Context	Essential ___ Desirable ___ Supportive ___ Not Relevant _X_	
B. Related Work		

B.1 Completion/Maintenance of current standards	Yes ___ No__X_	
B.2 Commitment to other organisation	Yes ___ No__X_	
B.3 Other Source of standards	Yes ___ No__X_	
C. Technical Status		
C.1 Mature Technology	Yes ___ No__X_	
C.2 Prospective Technology	Yes _ X __ No___	The work item is expected to contribute on the spread of Mobile AIDC technology, and to make Mobile AIDC technology even more versatile for future applications.
C.3 Models/Tools	Yes ___ No__X_	
D. Conformity Assessment and Interoperability		
D.1 Conformity Assessment	Yes ___ No__X_	
D.2 Interoperability	Yes ___ No__X_	
E. Adaptability to Culture, Language, Human Functioning and Context of Use		
E.1 Cultural and Linguistic Adaptability	**Yes_____** **No__X__**	
E.2 Adaptability to Human Functioning and Context of Use	**Yes_____** **No_X__**	
F. Other Justification		

Notes to Proforma

A. Business Relevance. That which identifies market place relevance in terms of what problem is being solved and or need being addressed.

A.1 Market Requirement. When submitting a NP, the proposer shall identify the nature of the Market Requirement, assessing the extent to which it is essential, desirable or merely supportive of some other project.

A.2 Technical Regulation. If a Regulatory requirement is deemed to exist - e.g. for an area of public concern e.g. Information Security, Data protection, potentially leading to regulatory/public interest action based on the use of this voluntary international standard - the proposer shall identify this here.

B. Related Work. Aspects of the relationship of this NP to other areas of standardisation work shall be identified in this section.

B.1 Competition/Maintenance. If this NP is concerned with completing or maintaining existing standards, those concerned shall be identified here.

B.2 External Commitment. Groups, bodies, or for external to JTC 1 to which a commitment has been made by JTC for Co-operation and or collaboration on this NP shall be identified here.

B.3 External Std/Specification. If other activities creating standards or specifications in this topic area are known to exist or be planned, and which might be available to JTC 1 as PAS, they shall be identified here.

C. Technical Status. The proposer shall indicate here an assessment of the extent to which the proposed standard is supported by current technology.

C.1 Mature Technology. Indicate here the extent to which the technology is reasonably stable and ripe for standardisation.

C.2 Prospective Technology. If the NP is anticipatory in nature based on expected or forecasted need, this shall be indicated here.

C.3 Models/Tools. If the NP relates to the creation of supportive reference models or tools, this shall be indicated here.

D. Conformity Assessment and Interoperability Any other aspects of background information justifying this NP shall be indicated here.

D.1 Indicate here if Conformity Assessment is relevant to your project. If so, indicate how it is addressed in your project plan.

D.2 Indicate here if Interoperability is relevant to your project. If so, indicate how it is addressed in your project plan

E. Adaptability to Culture, Language, Human Functioning and Context of Use

NOTE: The following criteria do not mandate any feature for adaptability to culture, language, human functioning or context of use. The following criteria require that if any features are provided for adapting to culture, language, human

functioning or context of use by the new Work Item proposal, then the proposer is required to identify these features.

E.1 Cultural and Linguistic Adaptability. Indicate here if cultural and natural language adaptability is applicable to your project. If so, indicate how it is addressed in your project plan.

ISO/IEC TR 19764 (Guidelines, methodology, and reference criteria for cultural and linguistic adaptability in information technology products) now defines it in a simplified way:

"ability for a product, while keeping its portability and interoperability properties, to:

- be internationalized, that is, be adapted to the special characteristics of natural languages and the commonly accepted rules for their se, or of cultures in a given geographical region;

- take into account the usual needs of any category of users, with the exception of specific needs related to physical constraints"

Examples of characteristics of natural languages are: national characters and associated elements (such as hyphens, dashes, and punctuation marks), writing systems, correct transformation of characters, dates and measures, sorting and searching rules, coding of national entities (such as country and currency codes), presentation of telephone numbers and keyboard layouts. Related terms are localization, jurisdiction and multilingualism.

E.2 Adaptability to Human Functioning and Context of Use. Indicate here whether the proposed standard takes into account diverse human functioning and diverse contexts of use. If so, indicate how it is addressed in your project plan.

NOTE:

1. **Human functioning is defined by the World Health Organization at http://www3.who.int/icf/beginners/bg.pdf as:**
   <<In ICF (*International Classification of Functioning, Disability and Health*), the term functioning refers to all body functions, activities and participation.>>

2. **Content of use is defined in ISO 9241-11:1998 (*Ergonomic requirements for office work with visual display terminals (VDTs) – Part 11: Guidance on usability*) as:**
   <<Users, tasks, equipment (hardware, software and materials), and the physical and societal environments in which a product is used.>>

Guidance for Standard Developers to address the needs of older persons and persons with disabilities).

F. Other Justification Any other aspects of background information justifying this NP shall be indicated here.

Annex for this new work item proposal

The following annex is not proposed as a CD for the work item but given for information to help understand what this work item deals with and how it is specified.

Reference number of working document: **ISO/JTC 1/SC 31 N 2595**

Date: 2008-07-30

Reference number of document: **ISO/IEC WD nnn-n**

Committee identification: ISO/IEC/SC 31/WG 6

Secretariat: ANSI

Information technology – Automatic identification and data capture techniques – Mobile item identification and management – Service broker for Mobile AIDC services

Élément introductif — Élément principal — Partie n: Titre de la partie

---

Document type: International standard
Document subtype: if applicable
Document stage: (20) Preparation
Document language: E

Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

Technical Committee ISO/IEC JTC 1, Information technology, Subcommittee SC 31, *Automatic identification and data capture techniques* prepared ISO/IEC XXXX

Introduction

Mobile RFID is a kind of RFID technology combined with mobile communication. Therefore, a Mobile AIDC terminal device which has RFID reader functions embedded in a mobile phone, accesses RFID tags as the existing RFID readers. In general, Mobile AIDC terminal such as RFID-reader installed mobile phone has limited computing power and resources. So it could be better that typical Mobile RFID functions such as UII identification and UII resolution related functions are performed in separate client on behalf of Mobile AIDC terminal. In this case, Mobile AIDC terminal has only to read primitive UII from RFID tag and passes the UII to separate client, and then the client performs UII identification and UII resolution. This standard specifies the interface between Mobile AIDC terminal and the client which is called service broker and defines the functions of service broker.

Information technology – Automatic identification and data capture techniques – Mobile item identification and management – Service broker for Mobile AIDC services

1   Scope

This standard defines the functions of service broker supporting ID identification and ID resolution related functions for Mobile AIDC terminal. Also, service control functions of service broker such as service filtering are defined in this standard. For using service broker by Mobile AIDC terminal, there is required to define interface between Mobile AIDC terminal and service broker. This standard also covers the interface.

[NOTE] this current draft is covering only the Mobile RFID case but will cover the Mobile ORM case later.

2   Conformance

[TBD]

3   Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

[TBD]

4   Terms and definitions and abbreviated terms

For the purposes of this document, the terms and definitions given in ISO/IEC 19762-1, ISO/IEC 19762-3, and the following apply.

4.1 Terms

[TBD]

4.2 Definitions

4.2.1 UII identification

UII identification is a process that identifies the UII stored in RFID tag. This process includes identifying the type of UII, for example ISO-15459 or ISO-11784, as well as the UII value itself.

4.2.2 UII resolution

It is a process of translating or resolving a UII into an address. It may be provided via directory service operations based on X.500, LDAP, DNS, etc. UII resolution process can be invoked by Mobile AIDC terminal or service broker to UII resolution server.

4.2.3 UII resolution server

It performs UII resolution process according to UII resolution request by Mobile AIDC terminal or service broker.

4.3 Abbreviated terms

[TBD]

5   Overview of Mobile RFID service architecture

5.1 Generic architecture

Generic service architecture is given in Figure 5-1. Mobile AIDC terminals are connected to the service provider network which is typically mobile telecommunication service provider. The service provider provides information contents to users and the information contents may be created by the service provider or contents providers.
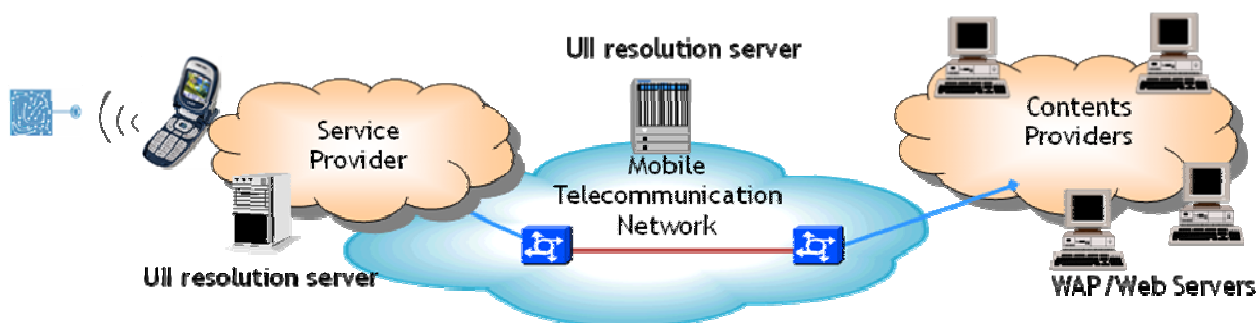

Figure 5-1. Generic service architecture

Figure 5-2 shows service procedures based on generic service architecture and adopts DNS protocol as UII resolution protocol.

Mobile AIDC terminal reads UII from RFID tag and performs UII identification. Once UII is identified Mobile AIDC terminal sends UII resolution request to UII resolution server (ODS). In Figure 5-2, DNS-based UII resolution protocol is applied to UII resolution protocol so Mobile AIDC terminal transforms the UII into FQDN format and makes DNS query using transformed FQDN. UII resolution server performs UII resolution process and returns UII resolution result as form of DNS response. Specific UII resolution protocol is defined in separate standard as XXX and detailed UII resolution process follows XXX. This UII resolution result includes the locations of contents regarding the UII which Mobile AIDC terminal read from RFID tag. Then Mobile AIDC terminal chooses content from the result and requests contents to the location of the contents.
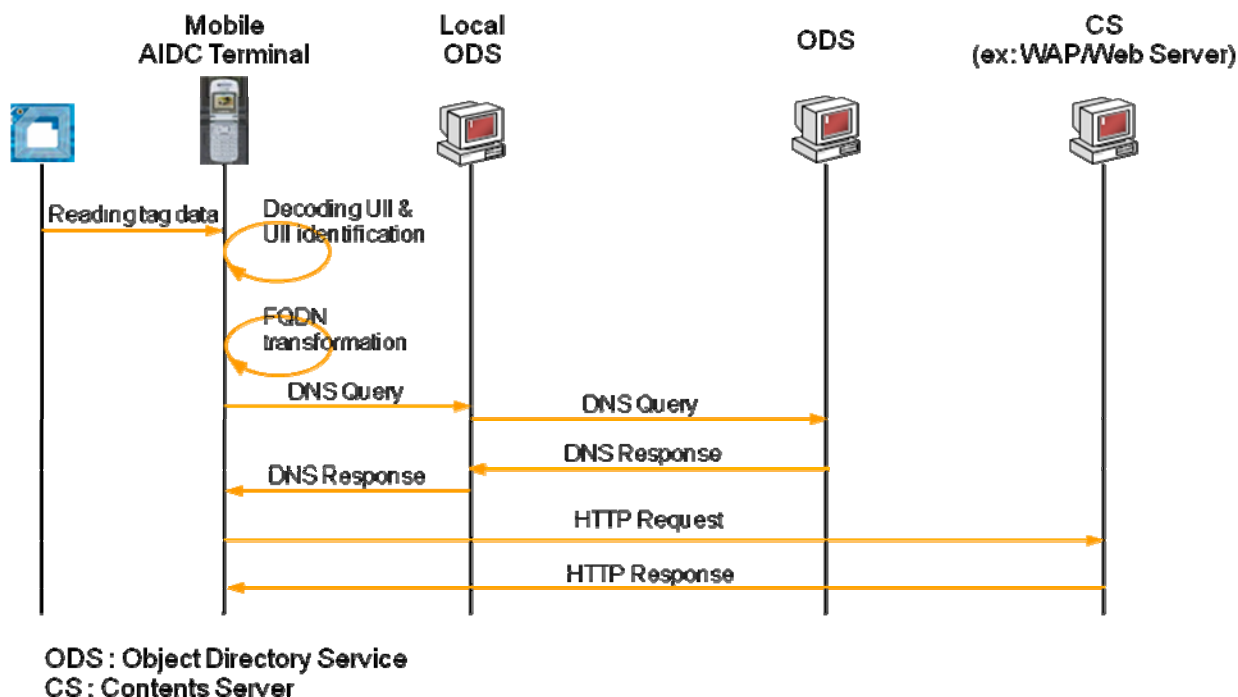
ODS : Object Directory Service
CS : Contents Server

Figure 5-2. Generic service procedures adopting DNS protocol as a UII resolution protocol

5.2 Service broker-applied architecture

As explained in chapter 5.1, Mobile AIDC terminal is required to perform UII identification and send UII resolution request which needs specific transform of identified UII according to applied UII resolution protocol. In general, Mobile AIDC terminal such as RFID-reader installed mobile phone has limited computing power and resources. So it could be better that UII identification and UII resolution related functions are performed in separate client on behalf of Mobile AIDC terminal. In this case, Mobile AIDC terminal has only to read primitive UII from RFID tag and passes the UII to separate client, and then the client performs UII identification and UII resolution. This standard calls the client service broker.

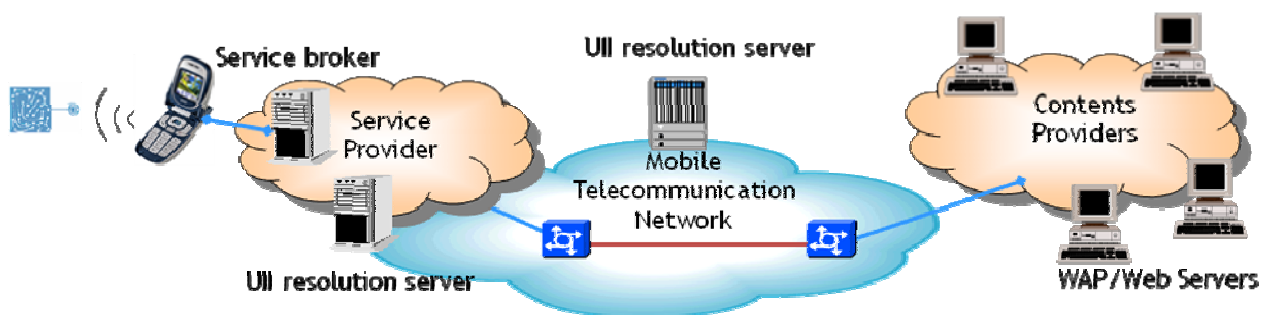Figure 5-3 depicts service broker-applied Mobile RFID service architecture.

Figure 5-3. Service broker-applied architecture

In service broker-applied architecture, Mobile AIDC terminals are connected to service broker in the service provider network. Service broker processes UII identification and UII resolution request on behalf of Mobile AIDC terminal which means that Mobile AIDC terminal has only to read UII from RFID tag and ask service broker to identify and resolve the UII.

ODS : Object Directory Service
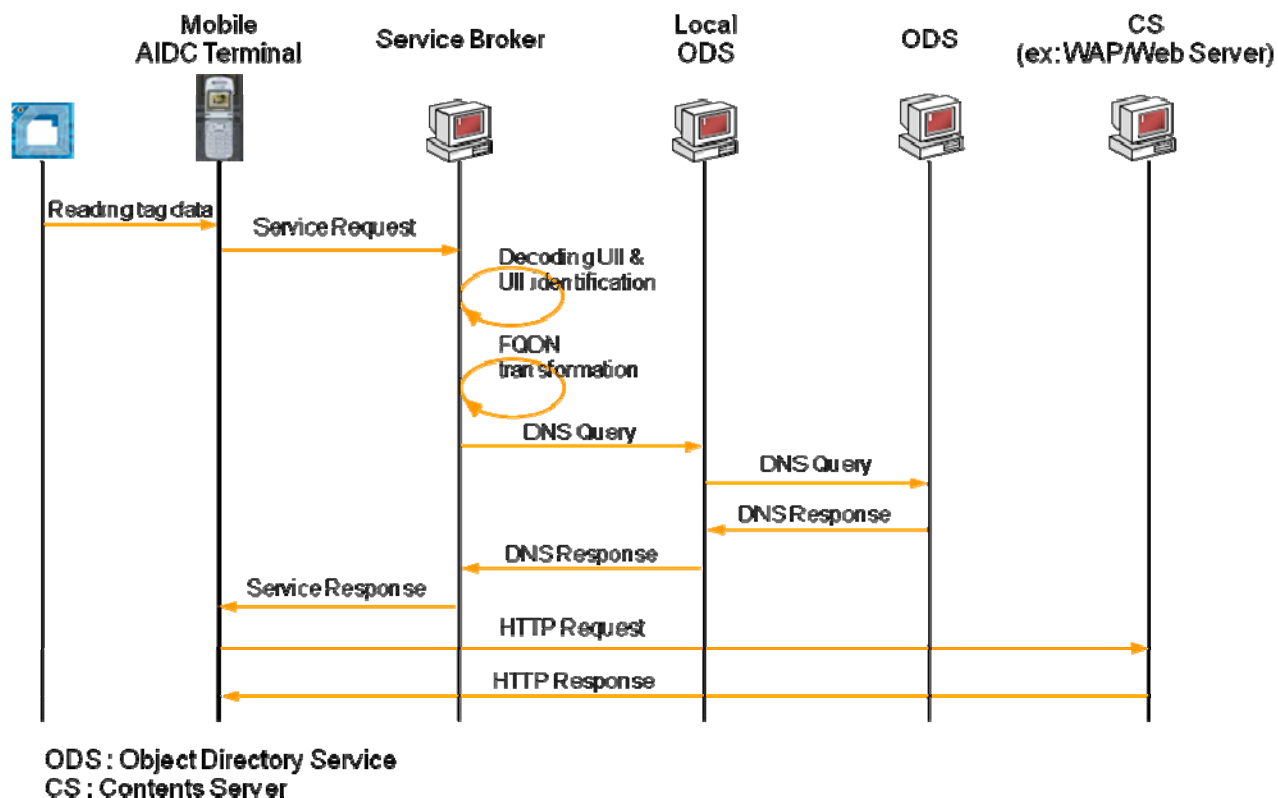CS : Contents Server

Figure 5-4. Service broker-applied service procedures with DNS protocol

Figure 5-4 shows service procedures based on service broker-applied service architecture.

Mobile AIDC terminal reads primitive UII from RFID tag and passes the UII to service broker. Service broker identifies the UII and transforms the identified UII into suitable form (e.g., FQDN in DNS protocol as a UII resolution protocol) to request UII resolution to UII resolution server (ODS). UII resolution server performs UII resolution process and returns UII resolution result. Specific UII resolution protocol is defined in separate standard as XXX and detailed UII resolution process follows XXX. This UII resolution result includes the locations of contents regarding the UII which Mobile AIDC terminal read from RFID tag. Service broker transfers the UII resolution result to Mobile AIDC terminal. Service control such as service filtering may be supported by service broker. Afterwards, the procedures in Mobile AIDC terminal are same to the procedures of generic architecture.

6 Functional requirements of service broker

6.1 UII identification

Service broker is required to process UII identification which is a process that identifies the UII stored in RFID tag. This UII is delivered from Mobile AIDC terminal. This process includes identifying the type of UII, for example ISO-15459 or ISO-11784, as well as the UII value itself.

[TBD]

6.2 UII resolution request

For UII resolution, service broker creates UII resolution request and sends the request to UII resolution server. To create UII resolution request, it needs to transform the identified UII into suitable form which depends on UII resolution protocol like X.500, LDAP, DNS, etc.

[TBD]

6.3   Service control

6.3.1 Service filtering

In mobile telecommunication services, service provider maintains information of subscribers and subscribers' mobile phones. This fact has same meaning in Mobile RFID services. If service broker is provided by mobile telecommunication service provider itself or the third party service provider in harmony with mobile telecommunication service provider, service broker can maintain information of Mobile AIDC terminals. Service broker acquires service information after UII resolution and can determine whether the service is feasible to requesting Mobile AIDC terminal or not. Information of requesting Mobile AIDC terminal which service broker maintains is used in determination. If the service is not feasible, the service is filtered out in service broker.

[TBD]

7   Interfaces

7.1   Mobile AIDC terminal – Service broker

7.1.1 SERVICE-REQUEST (from Mobile AIDC terminal to service broker)

[TBD]

7.1.2 SERVICE-RESPONSE (from service broker to Mobile AIDC terminal)

[TBD]

7.2   Service broker – UII resolution server

7.2.1 UII_RESOLUTION-REQUEST (from service broker to UII resolution server)

[TBD]

7.2.2 UII_RESOLUTION-RESPONSE (from UII resolution server to service broker)

[TBD]

Bibliography

[TBD]

MB[1]	Clause/ subclause (e. g. 3.1)	Para- graph/ Figure/ Table (e. g. Table 1)	Type of com- ment[2] (e. g. ed)	Comments: Justification for change	Proposed change	*DRAFT – For Comment* **Observations of the secretariat** on each comment submitted

[1] **MB = Member body (Enter two-letter country code, e. g. CN for China)**
[2] **Type of comment:**   **ge** = general   **te** = technical   **ed** = editorial   **NB Columns 1, 2, 4, 5 are compulsory**

FORM 13B (ISO) 2001-07-01