

SyncML

*⁰, * , *

e-mail : {[eunbi](mailto:eunbi@ce.cnu.ac.kr), [jhcho](mailto:jhcho@ce.cnu.ac.kr), [hchoi](mailto:hchoi@ce.cnu.ac.kr)}@ce.cnu.ac.kr

The Design and Implementation of Database for SyncML Data Synchronization

*JiYeon Lee⁰, *JinHyun Cho, *Hoon Choi

*Dept. of Computer Engineering, Chungnam National University

SyncML 가 SyncML 가 SyncML

SyncML , PIMS

1. [1]. SyncML

가 가

가 PDA(Personal Data Assistant) PC, SyncML 2 SyncML SyncML

PC, , PDA , 3 PIMS(Personal Information Management Service)

가 가

2. SyncML

SyncML ,

(Data Synchronization)

[2]. SyncML

[1]. XML (Extensible

2000 2 , Markup Language) , XML DTD(Document

SyncML (Synchronization Markup Language) Type Definition)

SyncML

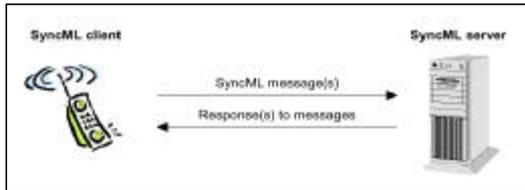
☞ SyncML Adapter

SyncML Toolkit

2.1 SyncML

< 1> SyncML
SyncML

☞ SyncML Toolkit



☞ Sync Agent SyncML

☞ Sync Engine Sync Agent

< 1> SyncML

SyncML 가 , SyncML 가 [3][4].

☞ Session Manager

☞ Open DB Interface SyncML

2.2 SyncML

SyncML SyncML

SyncML

SyncML

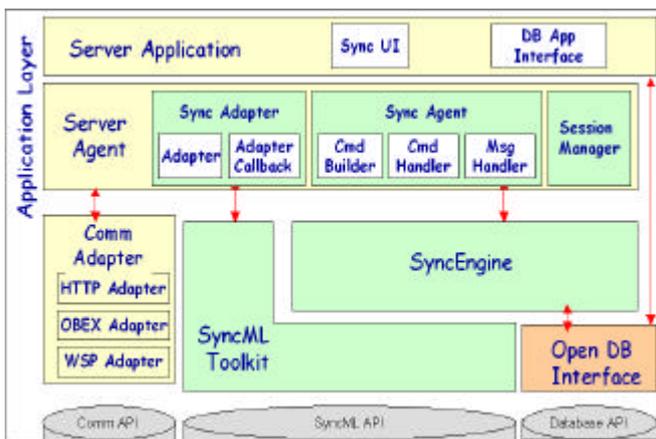
< 2> SyncML

☞ OS(Operating System): Windows 2000

☞ DBMS(Database Management System) : Oracle8i

☞ Language : Visual C++

☞ Web Server : Apache Web Server 1.3.12



3. PIMS

SyncML 1.0.1

PIMS 가 가 . PIMS

Open DB Interface

SyncML

SyncML

3.1 SyncML

(Contents)

“SYNC”

“SYNCSM”

“SYNC”

, PIM ADDRESSBOOK, CALENDAR

☞ Server Application

가

ID SyncML
 ID 가 MAPTABLE
 COPY 'C' USERINFO
 SyncML 가
 가 가
 CHANGELOG SyncML 가 Anchor ANCHOR
 URI, Credential, Nonce USERINFO
 MIMEType Nonce
 NONCEPERDB "SYNCSM"
 가

USERINFO 테이블

User ID	Device ID	...
jylee	1	...
jylee	2	...

CHANGELOG 테이블

User ID	Device ID	DB ID	GUID	Action Flag	Origin GUID
jylee	2	A	10052	R	
jylee	2	A	10053	A	
jylee	2	C	10030	C	10025

< 3> Change Log Information

Change Log Information

. HTTP (HyperText Transfer Protocol) [2][5]

ID 가 "jylee"
 ID 가 1 SyncML
 SyncML

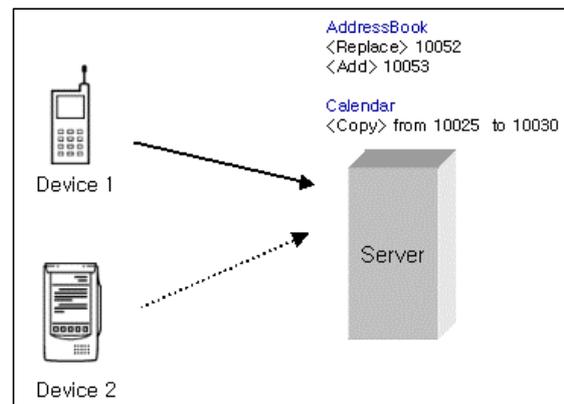
Session Manager
 "SYNCSM"
 "SYNCSM"

. ADDRESSBOOK GUID 10052
 <REPLACE> GUID 10053
 <ADD>, CALENDAR GUID 10030
 가 GUID 10025 <COPY>
 < 4>

ID,
 SESSIONINFO
 SyncML
 CMDINFO
 STSINFO
 RESULTINFO

3.2

SyncML
 Information, Map
 가 Change Log
 Anchor



Change Log Information

Change Information
 Change Log Information
 Change Log Information [3]. SyncML

< 4>

< 3>
 Information
 'A', Calendar 'C'
 GUID(Global Unique Identifier)[3]
 가 , Origin GUID
 <COPY> GUID
 Action Flag
 <ADD> 'A', <REPLACE> 'R', <DELETE> 'HD',

"jylee" 1
 Change Log
 , "jylee"
 USERINFO
 가 1
 , CHANGE LOG 2
 ADDRESSBOOK GUID 10052
 <REPLACE>, 10053 <ADD>, CALENDAR
 GUID 10025 <COPY>

10030 가 , 가 Anchor 가
 “jylee” 2 Anchor
 Change Log Information ,
 SyncML Anchor <ALERT> <META>
 가 [4][7].
 Map
 Unique Identifier) LUID (Locally 4.
 GUID SyncML 가
 가 ,
 가 LUID GUID
 [3]. SyncML , SyncML
 Map LUID , PIMS
 GUID Map GUID LUID 가
 Map GUID LUID
 , LUID
 LUID MAP PIMS
 LUID PIMS
 < 5> SyncML GUID , PIMS
 LUID

Client Device		Server Device	
Client Database:		Server Database:	
LUID	Data	GUID	Data
11	Car	1010101	Car
22	Bike	2121212	Bike
33	Truck	3232323	Truck
44	Shoes	4343434	Shoes

Server Mapping Database:	
GUID	LUID
1010101	11
2121212	22
3232323	33
4343434	44

- [1] SyncML Initiative, <http://www.syncml.org>
- [2] SyncML Initiative, SyncML Sync Protocol version 1.0.1, 2001. 6.15
- [3] SyncML Initiative, SyncML Representation Protocol version 1.0.1, 2001. 6.15
- [4] SyncML Initiative, SyncML Architecture, version 0.2, 2001. 5.10
- [5] SyncML Initiative, SyncML HTTP Binding, version 1.0.1, 2001. 6.15
- [6] SyncML Initiative, SyncML Meta-Information DTD, version 1.0.1, 2001. 6.15
- [7] , , , “SyncML , pp.324-336, 2001. 7

< 5>
 SyncML
 GUID LUID
 MAPTABLE GUID, LUID User ID, Device ID,
 DB ID 가
 SyncML 가 Anchor
 [3]. SyncML
 Anchor SyncML Anchor
 ISO 8601 UTC
 [2], 가
 가 Anchor