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1 :	5
2 : SNMP, CMIP CORBA	19
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1.

1980
가 ,
가 .
Internet Engineering Task Force (IETF) Simple
Network Management Protocol (SNMP) [1] Open System Interconnection
(OSI) Common Management Information Protocol (CMIP) [2]
CMIP ,
SNMP가 .

International Telecommunication Union (ITU) CMIP
Telecommunication Management Network (TMN) [3, 4] .
TMN
(interoperability) .
, , 가
, , ,
CMIP 가 ,
, 가 , ITU TMN
가 가 .
SNMP .

가 .
, 가

SNMP, CMIP

가

가

Open Management Group (OMG) [5] Common Object
Request Broker Architecture (CORBA) [6]가

[7], CORBA TMN

OMG

(Telecommunication Facilities: TF)

CORBA

[8, 9], TF

SNMP

CMIP

(domain) CORBA

가

Joint Inter Domain Management (JIDM)

OMG

[10, 11, 12].

JIDM

CORBA/TMN

TeleManagement Forum (TMF)¹ Advanced Communications Technologies
and Services (ACTS) CORBA/TMN CORBA

CMIP

가

[14, 15, 16].

CORBA

CMIP

, CORBA/CMIP

SNMP

가

¹ Network Management Forum (NMF)

CORBA/CMIP

CORBA/SNMP

TMN
, SNMP

TMN
Alarm Surveillance

. 2

, CORBA

TMN
. 3

4

TMN

CORBA
. 5
, 6

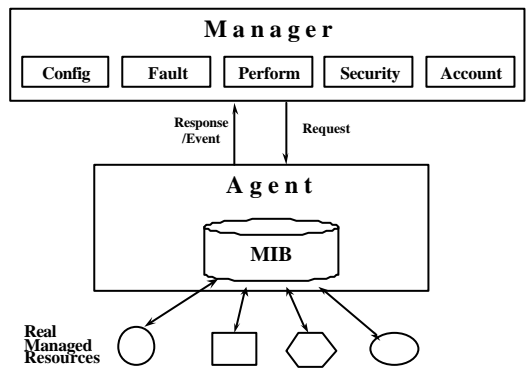
TMN
4
가

2.

, CORBA . CORBA
TMN .

2.1

(manager) (agent) 1 ,
(Real Managed
Resource) (Managed Object)
Management Information
Base (MIB) MIB



1 :

가

1 가

1:

(Fault Management)	
(Configuration Management)	
(Accounting Management)	
(Performance Management)	
(Security Management)	

Simple Network Management Protocol (SNMP)
(Internet Management Framework)

Common Management Information Protocol (CMIP)

OSI (OSI Management Framework) [17]. OSI

가

가

2.1.1 (Internet Management Framework)

Internet Engineering Task Force (IETF)

1990 TCP/IP
(RFC 1155, 1157, 1212, 1213) [18-21]. TCP/IP

OSI

가

. 1992

가

secure SNMP (RFC 1352) [22]가 1993

가 가 OSI

SNMPv2 (draft)가 . 1996

SNMPv2 (community)

SNMPv2 (RFC 1901-1908) [23-26]가 . 1998

SNMPv3 (RFC2271, 2274)가

가 [27, 28].

가

MIB

Structure and Identification of Management Information (SMI)

MIB,

SNMP

SNMP가 . SNMP Get,

Set, Trap 가

SNMP

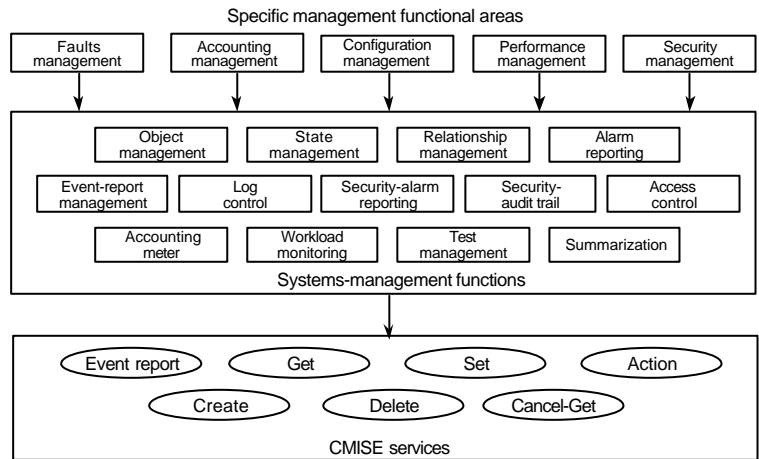
CMIP

SNMPv1 가

2.1.2 OSI (OSI Management Framework)

OSI ISO ITU-T
 X.700 [29]
 가 CMP
 가 .
 OSI , Common Management
 Information Services / Common Information Management Protocol
 (CMIS/CMIP) [2, 30], (Systems-Management Functions)
 [31], (Management Information Model) [32],
 (Layer Management) . CMIS
 CMP

CMIP Event Report, Get, Set, Action, Create, Delete, Cancel-Get OSI



2 : OSI

2 OSI

Guidelines for the Definition of Managed Objects

(GDMO) [33]가

(OSI Reference Model)

OSI

OSI

SNMP

가

2.2 Telecommunication Management Network (TMN)

Telecommunication Management Network (TMN) [34]

가

ITU-T

TMN M

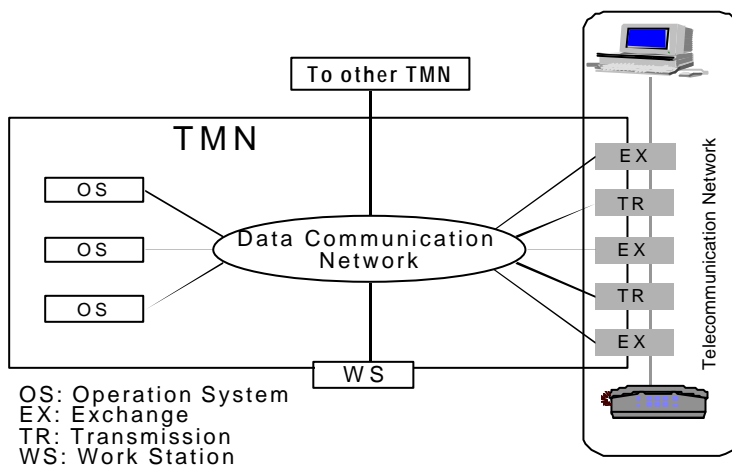
[35-39]

Open System Interconnection (OSI) CMIP

3

TMN

[3].



3 : Telecommunication Network TMN

TMN

TMN

가

. TMN

2.1
[35].

2.2.1 TMN

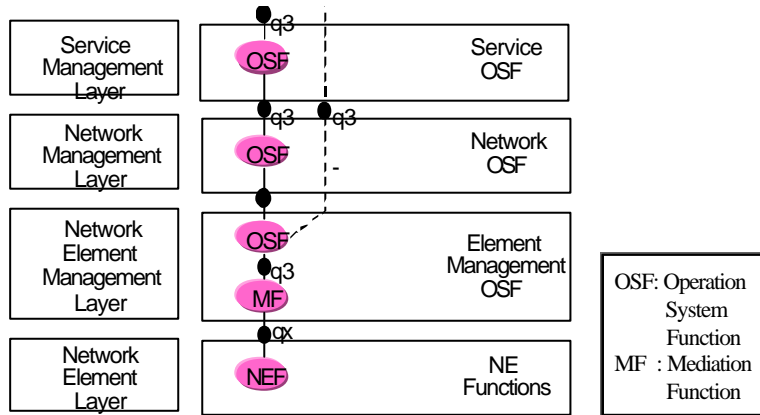
TMN

4

5 가

TMN

4



4 : TMN

TMN

[3].

??

(Business Management Layer):

(Operation System)

(Service Provider)

?? (Service Management Layer):

?? (Network Management Layer):

?? (Network Element Management Layer):

2.2.2 TMN

(architecture)

architecture), (functional architecture), (information architecture) 가 TMN (physical architecture) [3].

2.2.2.1

TMN

(OSF: Operation System Function), (WSF: Work Station Function), (MF: Mediation Function), (Network Element Function), Q

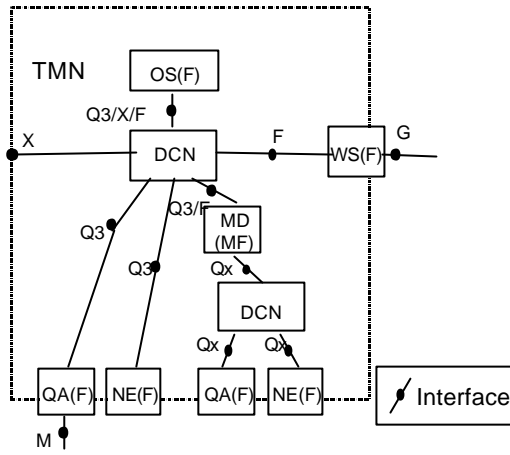
(Q Adapter Function)

TMN

가

5

(reference point)



5 : TMN

??

??

TMN

??

?? Q

TMN

TMN

TMN

TMN

5

2.2.2.2

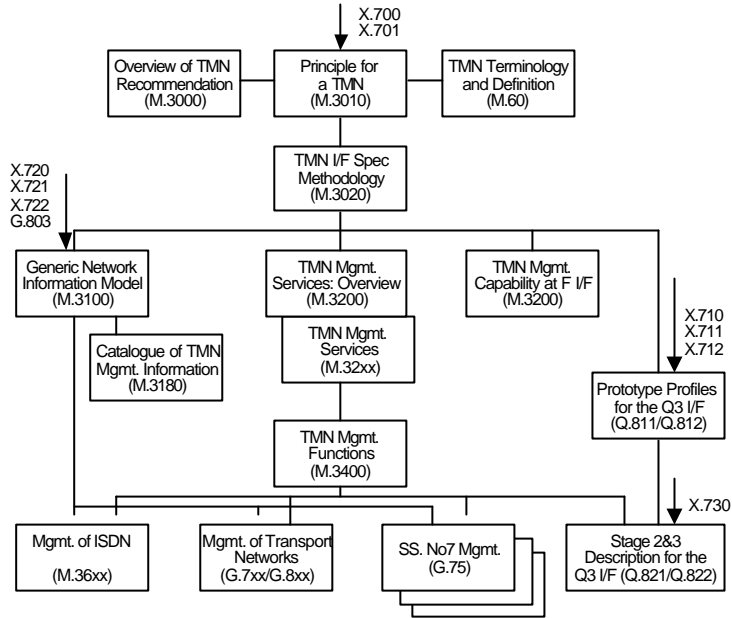
TMN
 5
 가 .
 ?? (DCN: Data Communication Network) q
 OSI .
 ?? TMN
 (EMS), (NMS),
 (SMS), (BMS) .
 ?? .

2.2.2.3

TMN 가
 ,
 ,
 OSI .

2.2.3 TMN

ITU-T TMN 가
 가 . TMN TMN
 , , ,
 , [34].
 TMN 6 ,



6 : TMN

?? : TMN ITU-T M.3010 , TMN [3].

?? : ITU-T M.3020 , TMN [36].

?? : M.3200 , [37].

?? : M.3400 , TMN TMN TMN [35].

?? : M.3100 M.3180 , [38, 39].

?? : ITU-T

X.722 [33].
 ?? : TMN
 CMIP ITU-T X.710
 [30].
 ?? : ITU-T X.730 [29]
 OSI , Q.820 [40]
 TMN 가

2.3 Common Object Request Broker Architecture (CORBA)

1989 Object
 Management Group (OMG)가 Object Management
 Architecture (OMA) [41].

OMA

OMA

. OMA

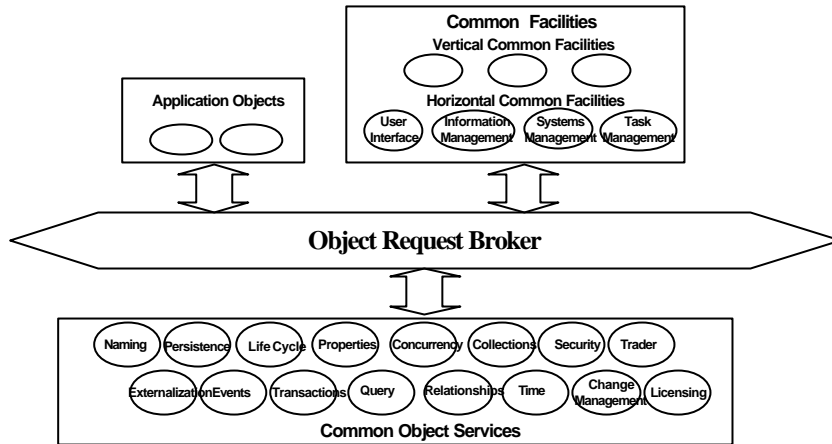
7

가

CORBA,

Common

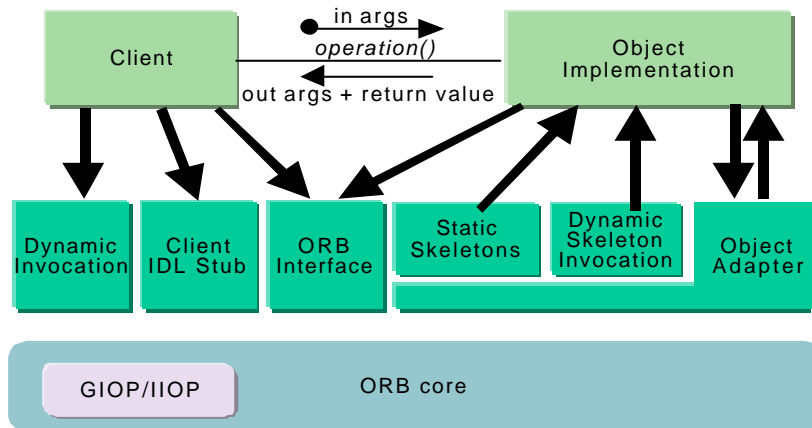
Objects Service Specification (COSS),
 Common Facilities,
 (Application Objects)



7 : Object Management Architecture

2.3.1 CORBA

CORBA OMA, Object Request Broker (ORB),
 ,
 , persistency, concurrency, naming, lifecycle, security, , printing,
 mail 가 [1].



8 : CORBA

CORBA
ORB Core , (Object Implementation) 8

ORB

Naming Service

가

가

(Dynamic Invocation),
(Interface Repository), ORB

(Client Stub),

??

:

IDL

??

??

IDL

가

?? ORB

(Implementation Skeleton),

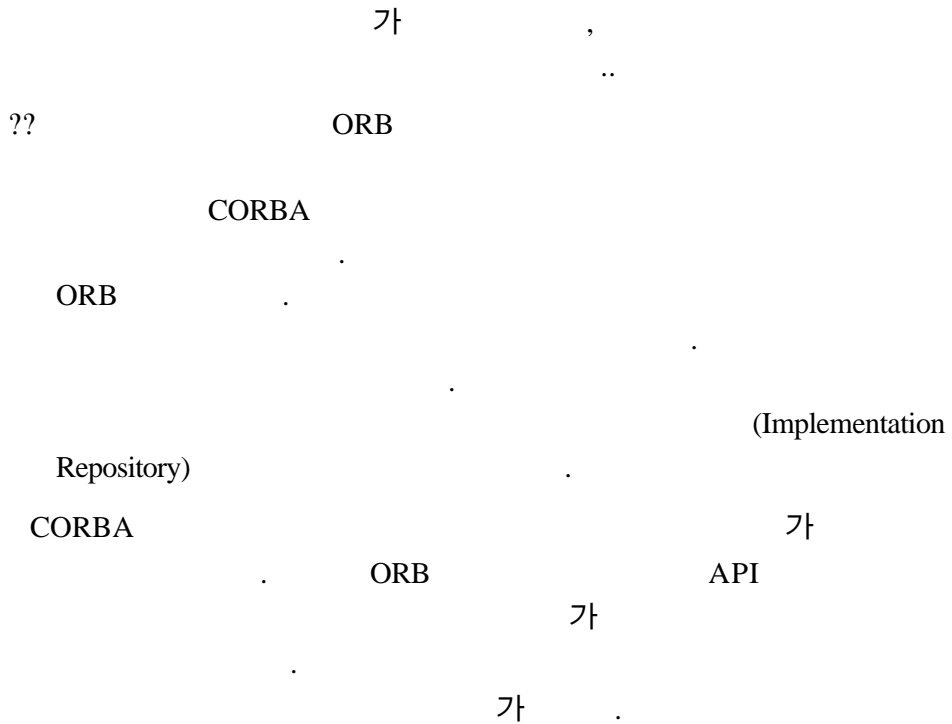
(Object Adaptor), ORB

??

?? Dynamic Skeleton Interface (DSI)

가

IDL



2.3.2 Common Object Service Specification

CORBA
 Common Object Service Specification (COSS)
 [42]. COSS 16 가 (Specification)
 가

?? Life Cycle Service:
 , ORB ,

?? Naming Service: Naming Context

. Naming Context name binding set 가 .
 (Name) Naming Context
 (Reference)
 (Bound) (Resolve) .

?? Event Service: CORBA

(One way) 가 . Event Service
 Event Channel . Event
 Channel Push Pull 가 .

?? Properties Service: CORBA IDL

가 . 가

2.3.3 Common Facilities

ORB COSS 가
 Common Facilities [6]
 , 가
 Common Facilities
 OMG 가 .
 Common Facilities (Horizontal) (Vertical)
 , Common Facilities
 , Common Facilities

Common Facilities 가
 OMG JIDM 가 .

2.4 CORBA TMN

TMN, OSI CMIP OSI, ITU-T
 IETF SNMP Internet
 OSI CMIP TMN 2
 TMN CMIP SNMP CORBA

2 : SNMP, CMIP CORBA

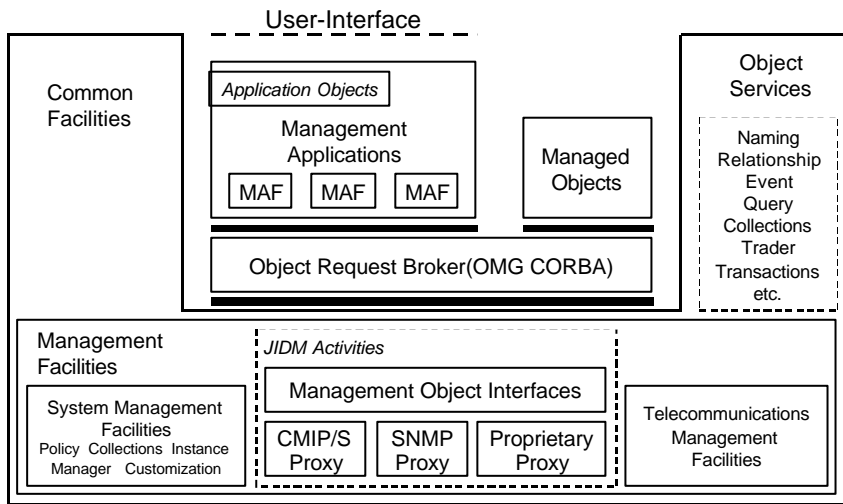
	IETF SNMP	TMN CMIP	CORBA
	SNMP SMI ()	GDMO ()	IDL ()
	Get, GetNext, Set, Trap	M-GET, M-SET, M-ACTION M-CANCEL-GET, M-CREATE, M-DELETE	Request, Response, CancelRequest, LocateReply, CloseConnection, MessageError
	- , -	- , -	-
		M.3400	COS Specification
Scoping Filtering			
	Trap	M-EVENT-REPORT	Event Service

TMN 가 , TMN Scoping Filtering 가

, SNMP
 . CORBA
 CMIP
 SNMP
 CMIP M-ACTION
 CORBA
 가 ORB
 . CMIP SNMP
 CORBA
 [43].

2.4.1 Object Management Group (OMG) TMN CORBA

OMG Telecom Task Force 9 CORBA
 Telecommunication Network Management System
 [6]



9 : OMG

CORBA

OSI

ITU-T/OSI

ITU-T/ISO, SNMP, CORBA

2.4.1.1 CORBA

OMG (Gateway)
CORBA

MAF (Management Application Function) TMN MAF
TMN OMG

OMG OMA

Management Facilities X/Open
System Management Facilities JIDM
(Proxy)

Management Facilities Telecommunication
Domain Task Force) (Telecommunication

2.4.1.2 CORBA

OMG CORBA 가 IDL
CORBA
CORBA

가
(OSI GDMO, IETF SMI) IDL JIDM
(Translation)
(Managed Object) (Service Object)

CORBA
(Interoperability) 가

OMG
CORBA/TMN . OMG가
JIDM
가 JIDM
TMN Telecommunication Facilities
가

2.4.2 Joint Inter-Domain Management (JIDM)

JIDM working group OMG “Interworking between
CORBA and TMN System RFP” [8] X/Open TeleManagement
Forum (TMF)

SNMP, CMIP CORBA
SNMP CMIP
CORBA IDL Specification Translation (ST)
Interaction Translation (IT) 1998
11 OMG [10, 44]. JIDM 가
OMG CORBA/TMN
JIDM

(Gateway Approach)

2.4.2.1 Specification Translation

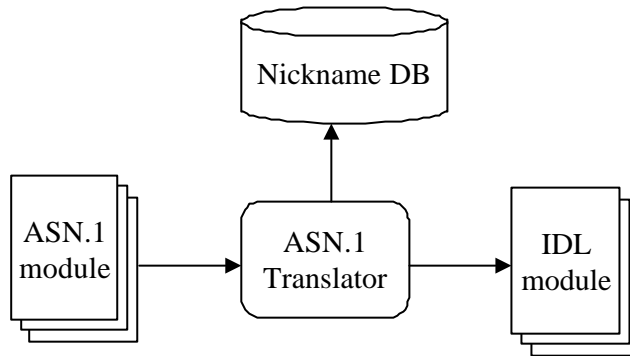
Specification Translation CMIP MIB GDMO,
SNMP MIB SMI CORBA Interface Definition
Language (IDL)
Specification Translation ASN.1, SNMP SMI, CMIP GDMO

IDL

2.4.2.1.1 ASN.1 IDL

ASN.1 CCITT ISO

SNMP CMP

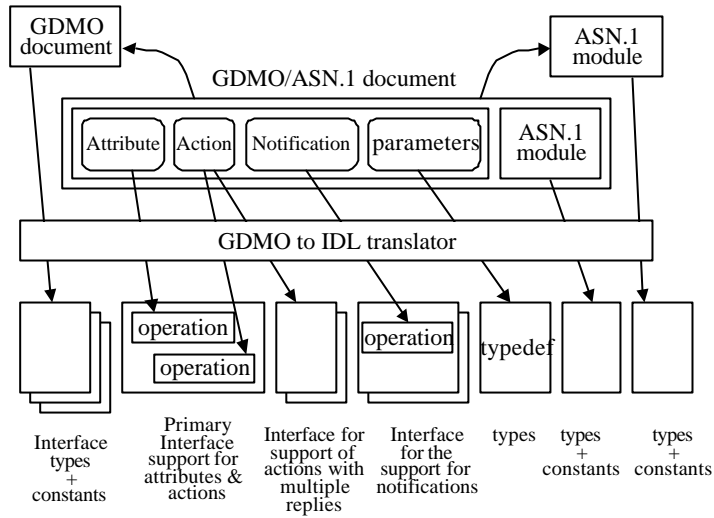


10 : ASN.1 IDL

10 ASN.1 module
IDL module 'Nickname DB'
ASN.1 IDL GDMO SMI IDL

2.4.2.1.2 OSI GDMO IDL

11 OSI GDMO IDL



11 : GDMO IDL

GDMO ,

Notification , GDMO Action Attribute

Notification , Action

Notification . Behaviour (Comment)

. GDMO IDL . GDMO

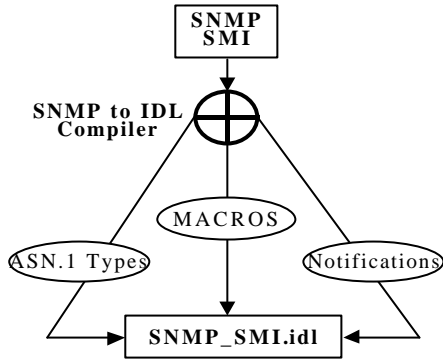
CORBA::Object Managed Object

Interaction Translation .

2.4.2.1.3 IETF SMI IDL

OSI GDMO가 (Object Oriented)

Based) IETF MIB SMI (Object



12 : SMI IDL

SNMP MIB IDL
 , IDL
 가 IDL
 Gateway SnmpNotifications
 PullSnmNotifications 가 IDL

2.4.2.2 Interaction Translation

Specification Translation (ST) MIB IDL
 Interaction Translation (IT) CORBA
 ST IDL
 (Adapter Object)가 가
 JIDM IT
 JIDM

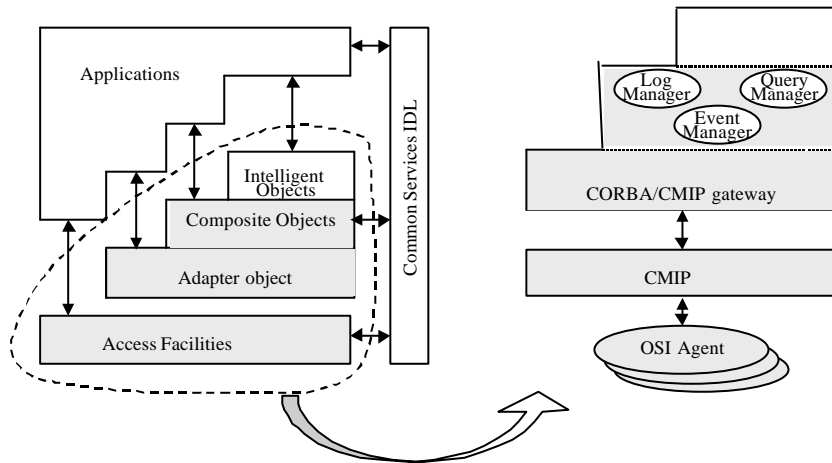
2.4.3 ACTS PROSPECT

Advanced Communications Technologies and Services (ACTS)
가

CORBA/TMN
[15, 16].

TeleManagement Forum (TMF) CORBA
Management System Framework (MSF)

ACTS CMIP (Agent) CORBA
CORBA/TMN



13 : PROSPECT NMF MSF

TMF MSF Access
Facilities
(Adapter Object)
(Composite Objects)

가

(Intelligent Objects)

. Common Service

MSF

ACTS

13

CMIP

JIDM

CORBA/CMIP Gateway

EventManager,

LogManager

QueryManager

?? EventManager

Adapter Object EventPort

Event Port

Event Forwarding Discriminator

(EFD) [30]

?? LogManager

?? QueryManager OSI

CORBA COSS [42]

ACTS PROSPECT

CORBA/TMN

TMN

OSI CMIP

가

3가

TMN

SMF

가

2.4.4 Westphall Alarm Surveillance

Westphall et al TMN

CORBA

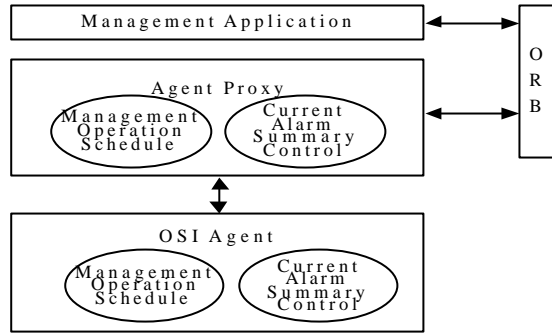
14

TMN Alarm Surveillance

Current Alarm Summary Control Management Operation

Schedule

가 ATM Switch . [45]



14 : Westphall Alarm Surveillance system

CORBA

CORBA

TMN

가

3. TMN CORBA

TMN TMN

(Network Management Layer: NML),

CORBA

CORBA SNMP, CMIP

가

TMN CORBA TMN

[46].

3.1

가 (Interoperability)

가 가

CORBA 가

3.1.1 Naming Addressing

CORBA가 가
. ORB

가

Name: DN) TMN SNMP Naming (Domain
CORBA

3.1.2

CORBA

OSI

. SNMP
. OSI CORBA가
OSI 가

Relationship: CR) CORBA (Containment

IR) 가 CORBA (Inheritance Relationship:
. SNMP 가

3.1.3

OSI

Scoping, Scoping

Filtering,

Linked Reply

(CR)
CORBA

가

CORBA

가

가

3.1.4

OSI
가
Discriminator (EFD)가

CORBA
OSI

Event Forwarding

CORBA Event Service

CORBA TMN

TMN CMIP

SNMP

(Trap)

3.1.5 CORBA

TMN

ITU-T
가

M.3400 [35]

TMN

TMN

TMN

CORBA
GDMO

TMN

CORBA

가

.OMG Naming, Event
[42], CORBA TMN CORBA

가

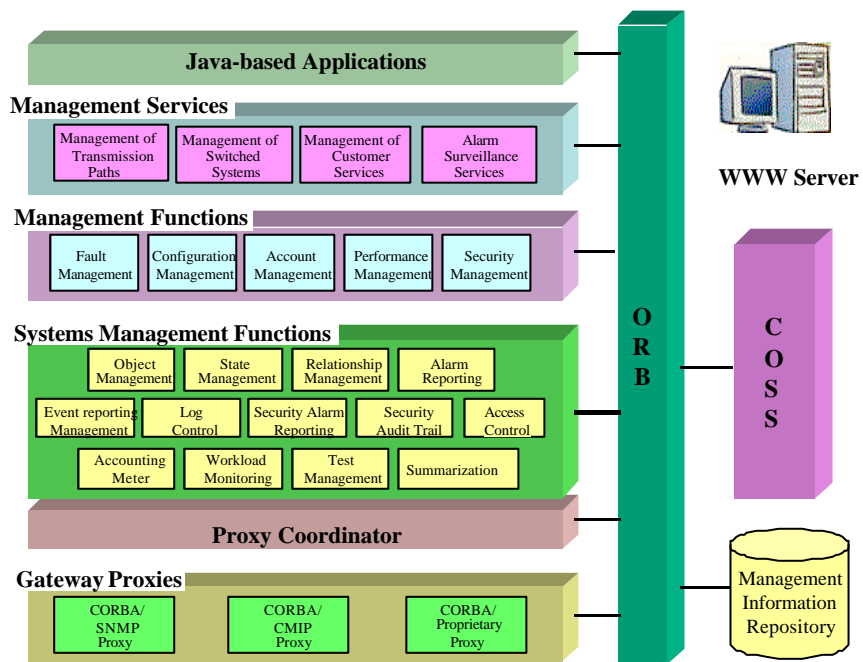
3.2

TMN

15

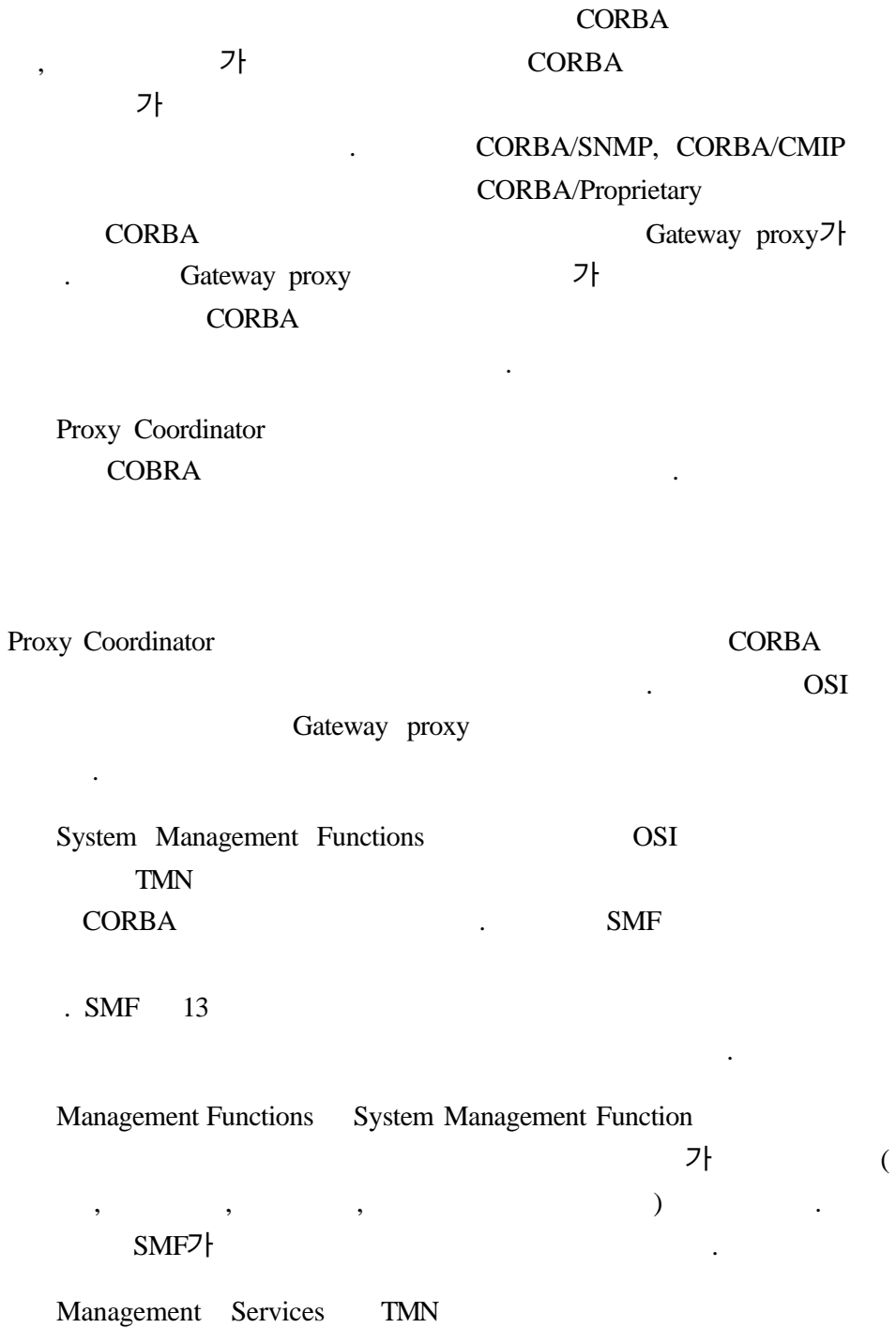
CORBA

ORB



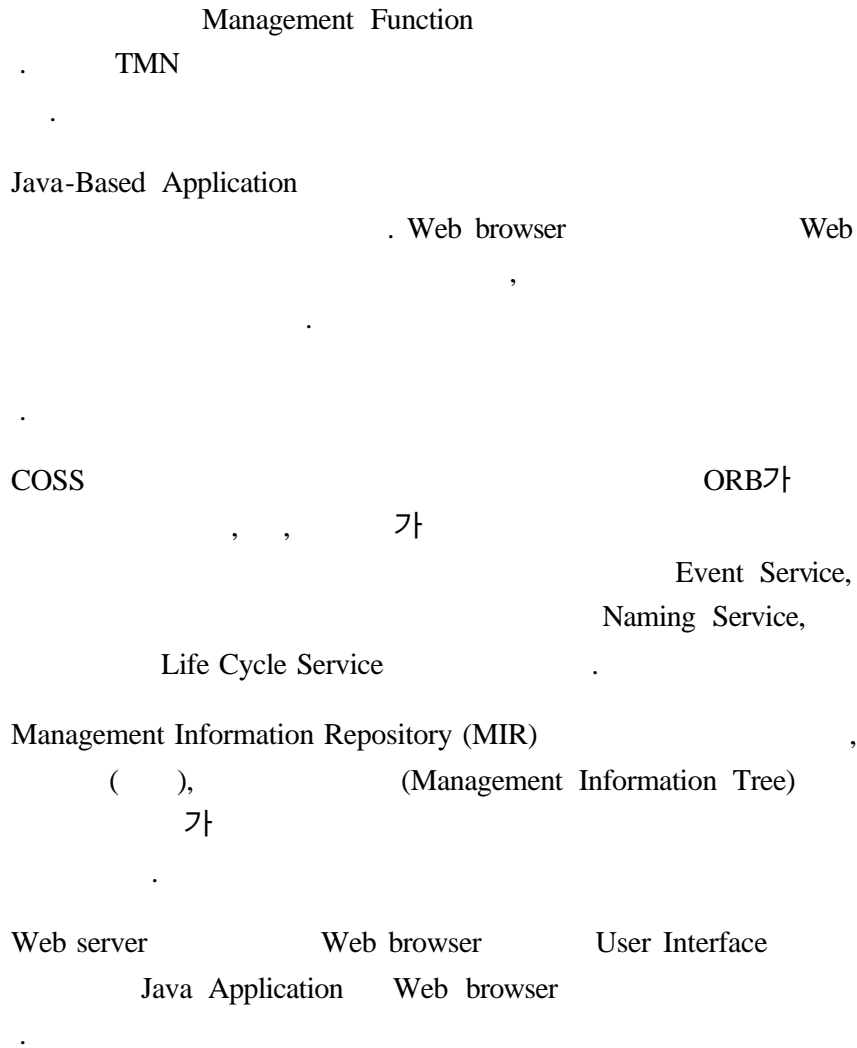
15 :

Gateway proxy CMIP, SNMP
CORBA



(Business Management Layer) [36]

TMN

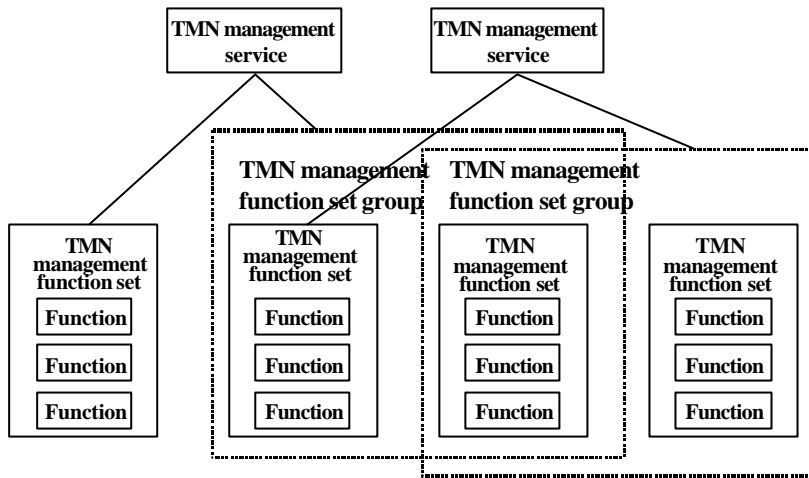


4. Alarm Surveillance System

3 TMN Alarm
 Surveillance
 (Fault Management) . Alarm Surveillance TMN
 [35, 46].

4.1

Alarm Surveillance .
 가 Alarm .
 Alarm (,)
 Alarm
 TMN OSI CMIP
 ITU-T M.3400 Alarm Surveillance
 CMIP .
 TMN
 가 , , , , .
 16 TMN (Management Function
 Set Group) (Group)
 (Function) (Function Set)



16 : TMN

Alarm Surveillance (Function Set) (Functions)

3

3 : TMN Alarm Surveillance

Function Set	Functions
Alarm Reporting	?? Alarm
	?? Alarm
	?? Alarm
Log Control	?? Alarm
Alarm Summary	?? Alarm
	??
Event Criteria Management	?? Alarm (Severity)
Alarm Indication Management	?? Alarm

가
CMIP

SNMP

SNMP

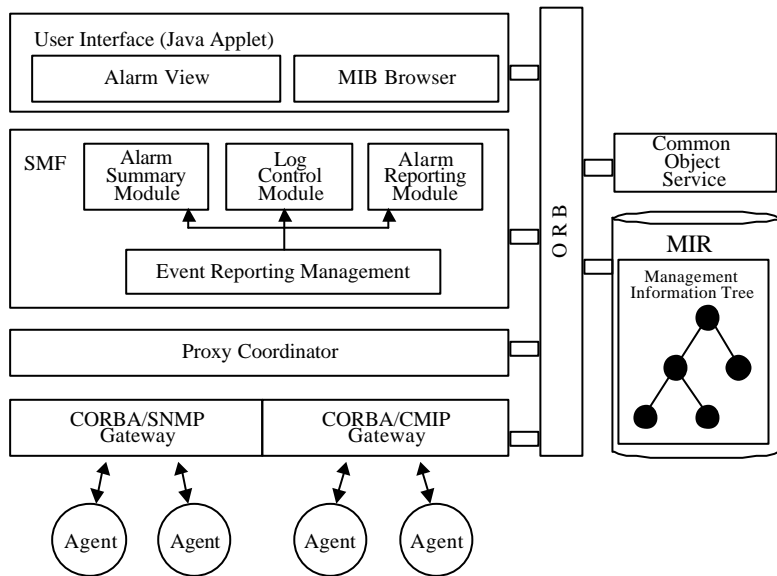
SNMP

(Trap) CMIP Alarm

4.2

Alarm Surveillance

17



17 : Alarm Surveillance System

User Interface

Alarm

	Alarm	Alarm Viewer
MIB Browser	.	
Web Server	가 Java applet code Java applet code 가	.
SMF 13	Alarm Surveillance	
가	.	Event Reporting Management
	Alarm	COSS Event Service가
Event Channel	.	
Alarm		Alarm
Alarm Reporting	Log Control	.
Log Control	Event Reporting Management	
Alarm		,
	.	Alarm Reporting Event
Reporting Management가		
.	Alarm Summary	Alarm
.		
Proxy Coordinator	가	
	JIDM Facilities	[10].
CORBA/SNMP Gateway	Internet	CORBA
.	JIDM	SNMP
Management Facilities [10]	.	
CORBA/CMIP Gateway	OSI	CORBA
	JIDM	OSI
Management Facilities [10]	.	
3		Management Service
Management Functions	SMF	

SMF Alarm Surveillance
가

4.2.1 User Interface

User Interface 가 Alarm Viewer SMF
MIB Browser . Alarm Viewer SMF
Alarm 가
Alarm , Alarm
Alarm , Alarm
MIB Browser

MIB Browser가
(Management Information Tree) CORBA Naming
Service . Proxy Coordinator module JIDM
Facilities [10]

4.2.2 SMF

SMF
Alarm Surveillance SMF Alarm Reporting, Event Reporting
Management, Alarm Summary Log Control 4
SMF가

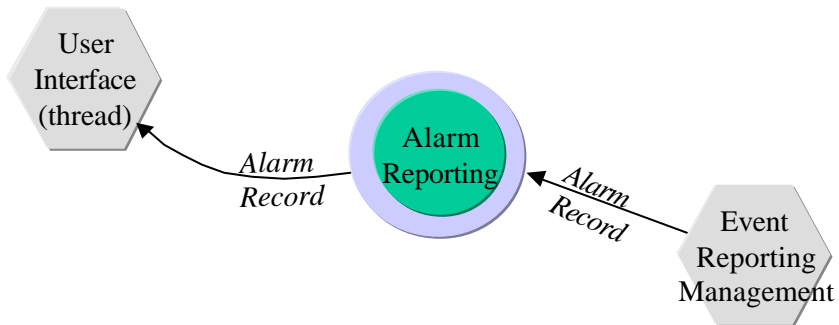
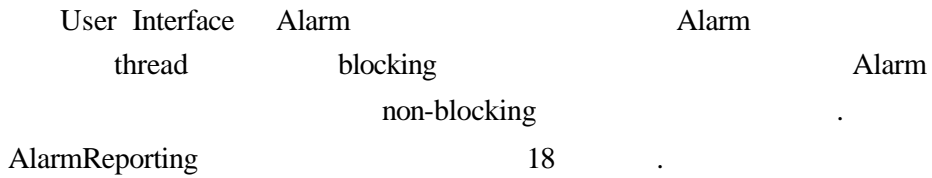
4.2.2.1 Alarm Reporting module

Alarm Reporting , Alarm Event
Reporting Management Alarm

IDL

```

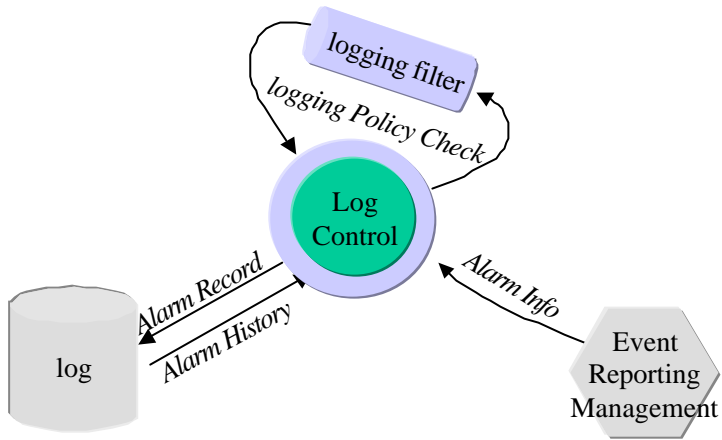
module AlarmReportingModule {
    interface AlarmReporting {
        AdminState alarm_reporting_state_get();
        void alarm_reporting_state_set();
        void report_alarm(in AlarmRecord alarm);
        short alert_alarm(out AlarmRecord alarm);
    };
};
    
```



18 : Alarm Reporting Function

4.2.2.2 Log Control module

Alarm Surveillance Service , Alarm Alarm



19 : Log Control Function

Log Control module 19

?? Alarm

:

Reporting Management

Alarm

Event

?? (criteria)

?? ; Log Control
 가 가 .
 ?? Alarm 가 log Alarm Record
 .

Log Control CORBA IDL .

```

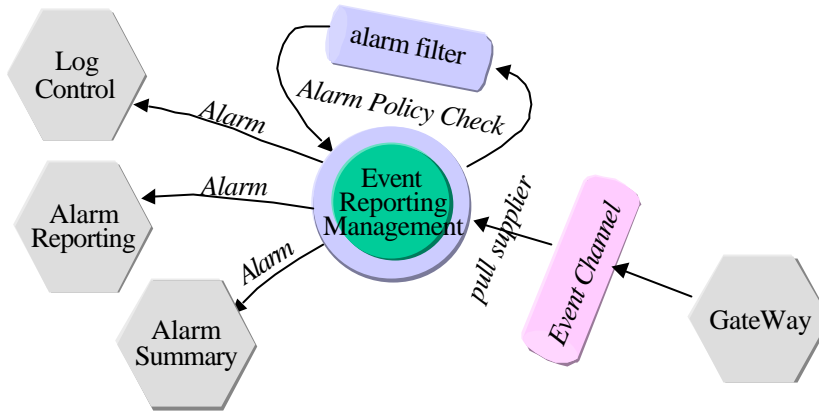
module LogControlModule {
  interface LogControl {
    AdminState log_control_state_get ();
    void log_control_state_set ();
    void retrieve_log (in string hostname, out long HOWMANY,
                      out AlarmRecordList alarmlist);
    void logging (in AlarmRecord alarmrecord );
  };

  interface LogFilter {
    boolean set_filter (in AlarmType filter);
    boolean delete_filter (in AlarmType filter);
    boolean check_filter_list (in AlarmType filter);
    void get_current_log_filter_list (out LogFilterList filterlist)
  };
};

```

4.2.2.3 Event Reporting Management module

Alarm
 , CORBA
 Event Service 가 . Event Reporting Management
 module Event Service .



20 : Event Reporting Management Function

20 Event Reporting Management module
 . Alarm 가 Alarm Filter
 가 Alarm ,
 .
 Event Reporting Management module Alarm Filter
 Alarm

Event Reporting Management module CORBA IDL

```

module EventReportingManagementModule {
  interface EventReportingManagement {
    AdminState event_reporting_management_get ();
    void event_reporting_management_set ();
    void init_ERM ();
  };
}

```

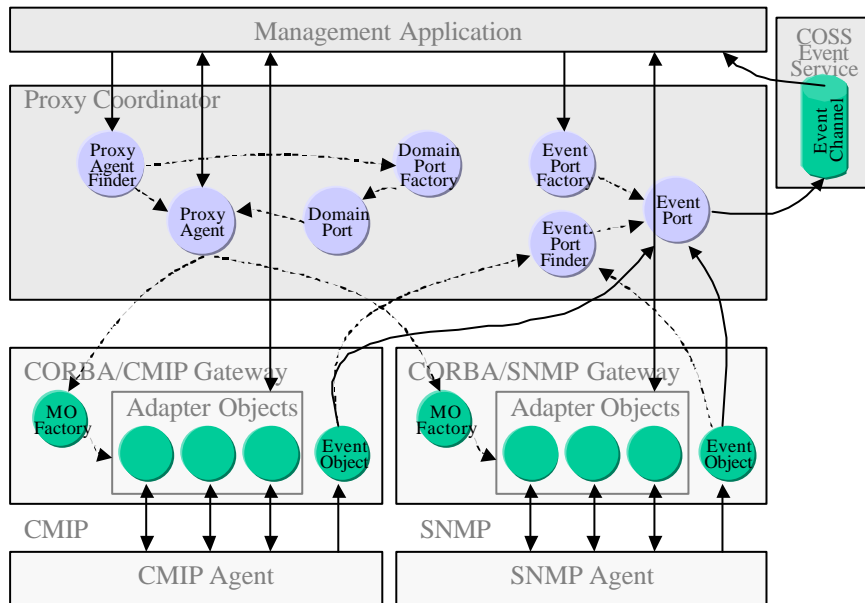


```

module AlarmSummaryModule {
    interface AlarmSummary {
        void get_alarm_summary (out AlarmRecordList
            alarmsummarylist, out long HOWMANY);
        void insert_alarm_summary(in AlarmRecord alarm);
        void delete_alarm_summary(in AlarmRecord alarmrec);
    };
};
    
```

4.2.3 Proxy Coordinator module

22 Proxy Coordinator module



22 : Proxy Coordinator Gateway proxy

Proxy Coordinator module CORBA

, CORBA

JIDM

JIDM Facilities [10]

Proxy Coordinator module Proxy Agent, Proxy Agent Controller, Proxy Agent Finder, Domain Port, Domain Port Factory, Event Port, Event Port Factory, Event Port Finder

가

, Proxy Agent

Finder

Proxy

Agent

Proxy Agent

. Proxy Agent Controller

Proxy Agent

. Domain Port Factory

Domain Port

. Domain Port

Naming Tree

, COS

Naming service

. Event Port Finder

Gateway가

Event Port

. Event Port Factory

Event Port

Event Port Gateway

4.2.4 CORBA/SNMP Gateway module

CORBA/SNMP Gateway module SNMP MIB JIDM
Specification Translation IDL SNMP

가

(Management Application)

(Adapter Object)

(Trap)

Event Port

Event Object

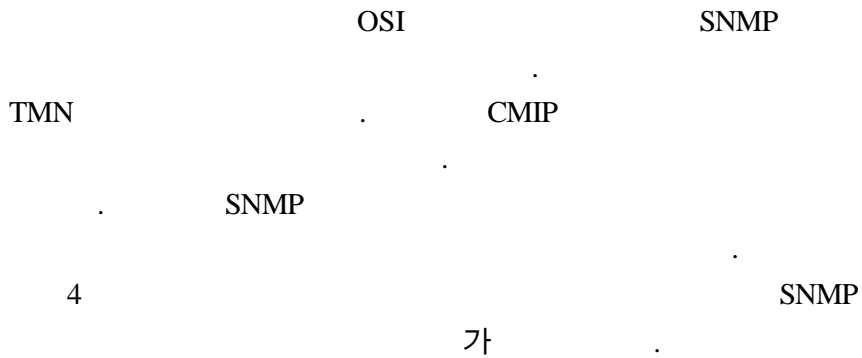
4.2.5 CORBA/CMIP Gateway module

CORBA/CMIP Gateway module Specification Translation (ST)
Interaction Translation (IT) CORBA CMIP
. ST CMIP GDMO/ASN.1 CORBA IDL
. JIDM
. IDL CORBA
GDMO CMIP
IDL (Adapter Object)
(Adapter Object)
(Adapter Object)
Managed Object Factory CORBA/CMIP Gateway
module

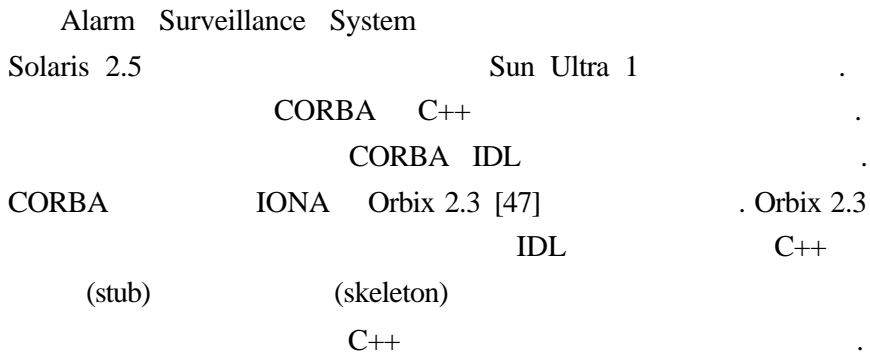
CORBA

Event Port

5.



5.1



5.2 System Management Function

SMF Alarm Reporting module, Log Control module, Event Reporting Management module, Alarm Summary module
SMF module module

5.2.1 Alarm Reporting module

Alarm reporting

CORBA

IDL compiler

```

class AlarmReporting_i:public SMF::AlarmReportingModule
    ::AlarmReportingBOAImpl {
    AdminState AlarmReportingState;
    short IsAlarm;
    AlarmRecord AR;
public:
    AlarmReporting_i();
    ~AlarmReporting_i();
    virtual AdminState alarm_reporting_state_get
        (CORBA::Environment &IT_env);
    virtual void alarm_reporting_state_set
        (AdminState state, CORBA::Environment &IT_env);
    virtual void report_alarm
        (const AlarmRecord& alarm,
         CORBA::Environment &IT_env);
    virtual CORBA::Short alert_alarm
        (AlarmRecord*& alarm, CORBA::Environment &IT_env);
};
    
```

	Alarm Reporting		Web
browser	Java applet	User Interface	
		Alarm	
thread	Alarm Reporting	alert_alarm()	가 가
	polling	Event Reporting Management	가 report_alarm()
Alarm Reporting	Alarm		User Interface

COS Event Service Alarm Event
 Reporting Management module가 Log Control logging()
 . Log Control 가 가
 가 . 가
 void log_control_state_set()
 . 가
 Log Control Alarm
 가 Log
 Filter check_filter_list() .
 Alarm
 .
 Log Filter 가 .
 set_fliter() ,
 delete_filter() .
 get_current_filter_list()

5.2.3 Event Reporting Management module

CORBA ,
 CMIP M-EVENT-REPORT SNMP Trap
 COS Event Service . Event Service Event
 Channel
 가 . Event Reporting
 Management module Event Channel
 Event Channel Alarm Reporting, Alarm Summary,
 Log Control Alarm . Event Reporting
 Management module Alarm
 Alarm Filter

. Event Reporting Management module Event Channel

가

check_alarm_filter_list()

Event Reporting Management module

```
class EventReportingManagement_i
    :public SMF::EventReportingManagementModule
    ::EventReportingManagementBOAImpl {
    AdminState EventReportingManagementState;
    CosEventChannelAdmin::EventChannel_var channelVar;
    CosEventChannelAdmin::ConsumerAdmin_var conadminVar;
    CosEventChannelAdmin::ProxyPullSupplier_var
        proxy_pull_supplier;
    CosEventComm::PullConsumer_var pull_consumer;
public:
    EventReportingManagement_i();
    ~EventReportingManagement_i();
    virtual AdminState event_reporting_management_get
        (CORBA::Environment &IT_env);
    virtual void event_reporting_management_set
        (AdminState state, CORBA::Environment &IT_env);
    virtual void init_ERM (CORBA::Environment &IT_env);
};

class AlarmFilter_i: public SMF::EventReportingManagementModule
    ::AlarmFilterBOAImpl {
    AlarmFilterList _AlarmFilterList[12];
public:
    AlarmFilter_i();
    ~AlarmFilter_i();
    virtual CORBA::Boolean add_alarm_filter
        (const char * filter, CORBA::Environment &IT_env);
    virtual CORBA::Boolean delete_alarm_filter
        (const char * filter, CORBA::Environment &IT_env);
};
```

```

        virtual CORBA::Boolean check_alarm_filter_list
            (const char * filter, CORBA::Environment &IT_env);

        virtual void get_current_alarm_filter_list
            (AlarmFilterList*& filterlist,
             CORBA::Environment &IT_env
};

```

Alarm Filtering Alarm

. CMIP communicationsAlarm, equipmentAlarm, environmentalAlarm, processingErrorAlarm, qualityOfServiceAlarm 가 , SNMP coldStart, warmStart, linkDown, linkUp, authenticationFailure, egpNeighborLoss, enterpriseSpecific 가 Alarm AlarmFiltering

11 가

Event Reporting Management가 Event Channel Alarm 가

```

CosEventChannelAdmin::EventChannel_var channelVar;
CosEventChannelAdmin::ConsumerAdmin_var conadminVar;
CosEventChannelAdmin::ProxyPullSupplier_var proxy_pull_supplier;
CosEventComm::PullConsumer_var pull_consumer;

pull_consumer = new CosEventComm::PullConsumer();
channelVar=CosEventChannelAdmin::EventChannel
::_bind(":EventCh", "tigris");
conadminVar = channelVar->for_consumers();
proxy_pull_supplier = conadminVar->obtain_pull_supplier();
proxy_pull_supplier->connect_pull_consumer(pull_consumer);

CORBA::Boolean has_event;
int cmd = 1;
while ( 1 ) {
    try {

```

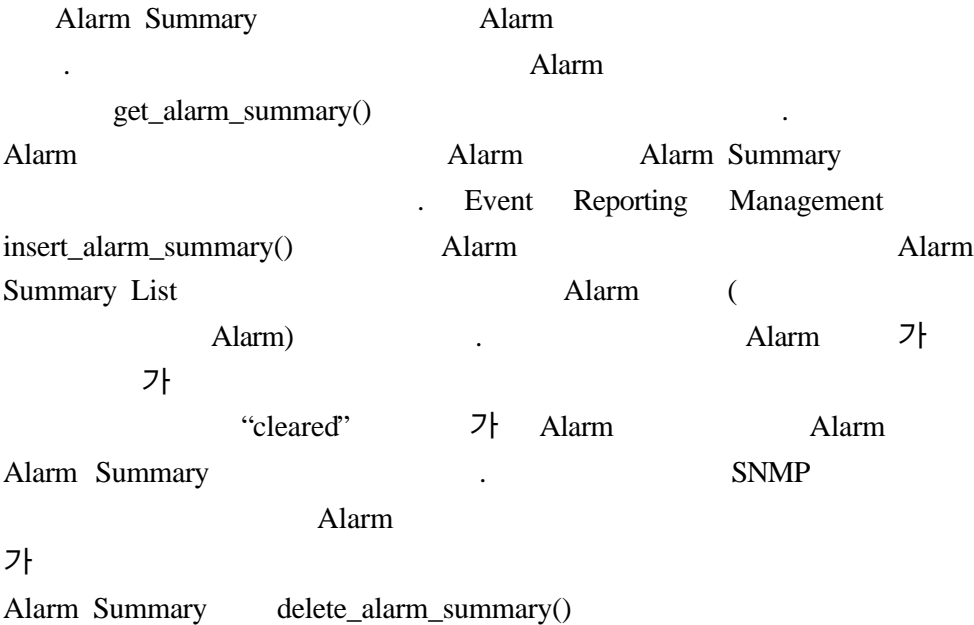
```

        b = proxy_pull_supplier->try_pull(has_event);
    } catch ( const CORBA::SystemException& se) {
    }

    //      가
    if ( has_event == 1 ) {
        // AlarmReporting AlarmSummary, LogControl
        .
    }
}

```

5.2.4 Alarm Summary module



Alarm Sumamry module

```

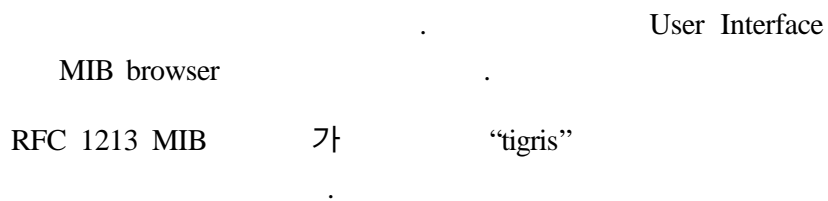
class AlarmSummary_i:
  public SMF::AlarmSummaryModule::AlarmSummaryBOAImpl {
  public:
    AlarmSummary_i();
    ~AlarmSummary_i();
    virtual void get_alarm_summary
      (AlarmRecordList*& alarmsummarylist,
       CORBA::Long& HOWMANY,
       CORBA::Environment &IT_env);
    virtual void insert_alarm_summary
      (const AlarmRecord& alarm,
       CORBA::Environment &IT_env);
    virtual void delete_alarm_summary
      (const AlarmRecord& alarmrec,
       CORBA::Environment &IT_env);

};

```

5.3 Proxy Coordinator Gateway proxy

Proxy Coordinator



```

char* host = "tigris"
my_orb = ORB_init(argv, my_ORB_id);
obj = my_orb->resolve_initial_references("JIDM::ProxyAgentFinder");
agent_finder = ProxyAgentFinder::_narrow(obj);

a_key.id = "Internet Management";

```

```
a_key.kind = " ";
a_criteria[0].name(host);
CORBA::Any any_str_value;
any_str_value <<="Snmpv1";
a_criteria[0].value(any_str_value);

agent = agent_finder->access_domain (a_key, a_criteria);

finding_key [0].id ="tigris";
finding_key[0].kind = "object interface";

ff = agent->get_domain_factory_finder();
mo = ff->find_factories(finding_key);
object = mo->create("system");

obejct_ptr = RFC1213_MIB::system::_narrow(object);
cout << "sysName = " << obejct_ptr->sysName() << endl;
```


9 가 SMF
TMN

가
가

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가

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SNMP CMIP

가

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