

공개SW커뮤니티 지원사업

시스템 자원 관리



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시스템 자원 관리

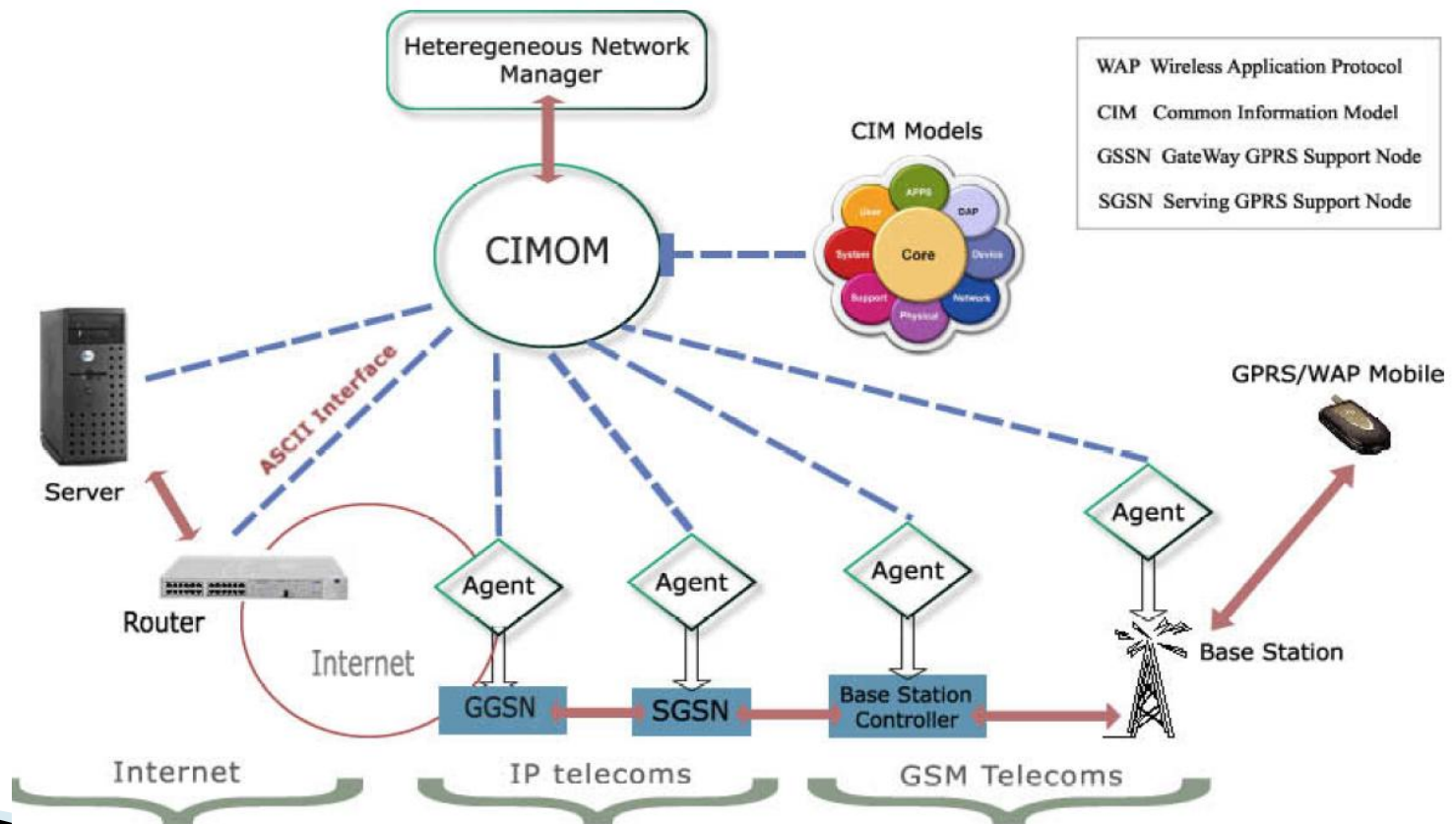
기술 개요

CIM

- ▶ DMTF standards
- ▶ Common Information Model
- ▶ One of the approaches in the industry for enabling the management of real world managed objects

시스템 자원 관리

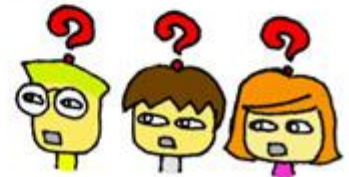
- ▶ 이기종 시스템들이 산재돼있음



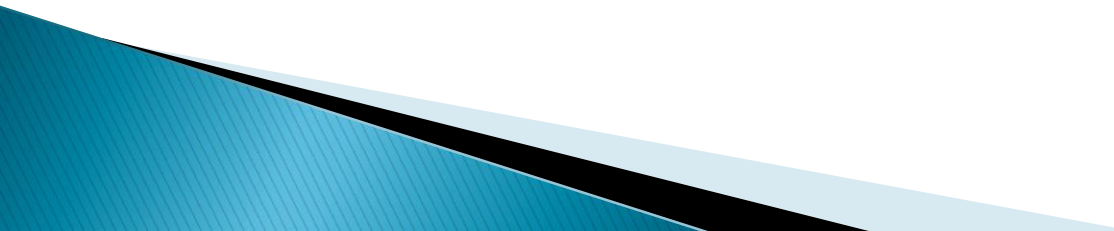
Communication Problem



도했어! 우리도 이제
자동차 만드는 거야~!



CIM

- ▶ Modeling language and syntax
 - ▶ Management schema (core, common, extension)
 - ▶ Protocol to encapsulate syntax and schema (XML/HTTP)
 - ▶ Compliance document, but no test suites
- 

Modeling Language & Syntax

- ▶ Meta schema is formal definition of the model
 - Terms are defined to express model, usage, and semantics
 - A few perhaps not so familiar terms
 - An association class represents the relationship between 2 or more classes and contains 2 or more references. References define the role that each class plays in that association.
 - Qualifiers define characteristics, usage, or semantics of a class, property, or method. It is a mechanism to extend meta schema in a controlled manner.
- ▶ UML is used to define the structure of the meta schema (e.g. Visio, RationalRose tools)
 - Basic OO concepts of classes, properties, methods, operations, inheritance, associations, cardinality, etc
- ▶ Managed Object Format (MOF) is the language used to describe management information
 - Can be encoded in Unicode or UTF-8

MOF

[Version ("2.7.0"), Description (

"A class derived from System that is a special collection of ManagedSystemElements. This collection provides "

"compute capabilities and serves as aggregation point to associate one or more of the following elements:
FileSystem, "

"OperatingSystem, Processor and Memory (Volatile and/or NonVolatile Storage).")]

class CIM_ComputerSystem : CIM_System {

[Override ("NameFormat"),

ValueMap {"Other", "IP", "Dial", "HID", "NWA", "HWA", "X25", "ISDN", "IPX", "DCC", "ICD", "E.164", "SNA", "OID/OSI",
"WWN"}]

string NameFormat;

[MaxLen (256), ArrayType ("Indexed"), Description (

"OtherIdentifyingInfo captures additional data, beyond System Name information, that could be used to identify

"a ComputerSystem. One example would be to hold the Fibre Channel World-Wide Name (WWN) of a node.
Note that "

"if only the Fibre Channel name is available and is unique (able to be used as the System key), then this "

"property would be NULL and the WWN would become the System key, its data placed in the Name property."),

ModelCorrespondence {

"CIM_ComputerSystem.IdentifyingDescriptions"}]

string OtherIdentifyingInfo[];

};

CIM Schema

▶ Core Model

- Defines schema applicable to all areas of management
- Examples
 - ManagedElement ManagedSystemElement System
 - LogicalDevice PhysicalElement Collection
 - Service ServiceAccessPoint
 - Associations (relationships) between schema classes

▶ Common Model

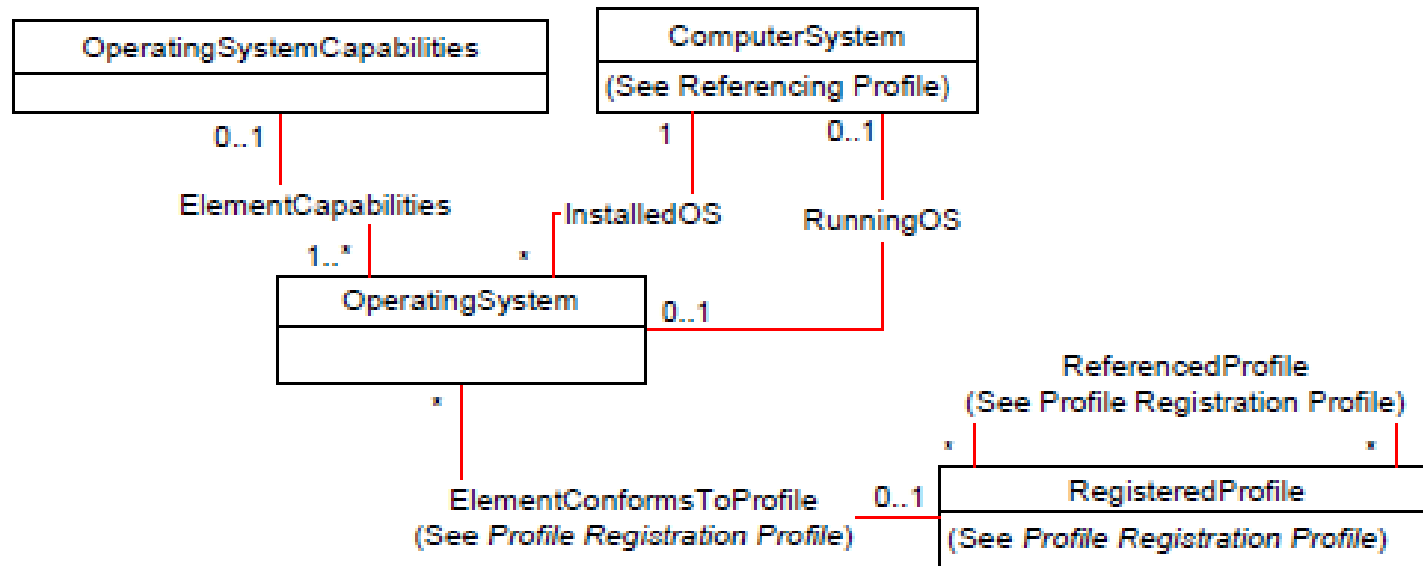
- Defines schemas to particular areas of management
- Independent of technology or implementation
- Models defined
 - Physical System Devices
 - Network Application Network
 - Events Policy User & Security

▶ Core + Common model are CIM schema

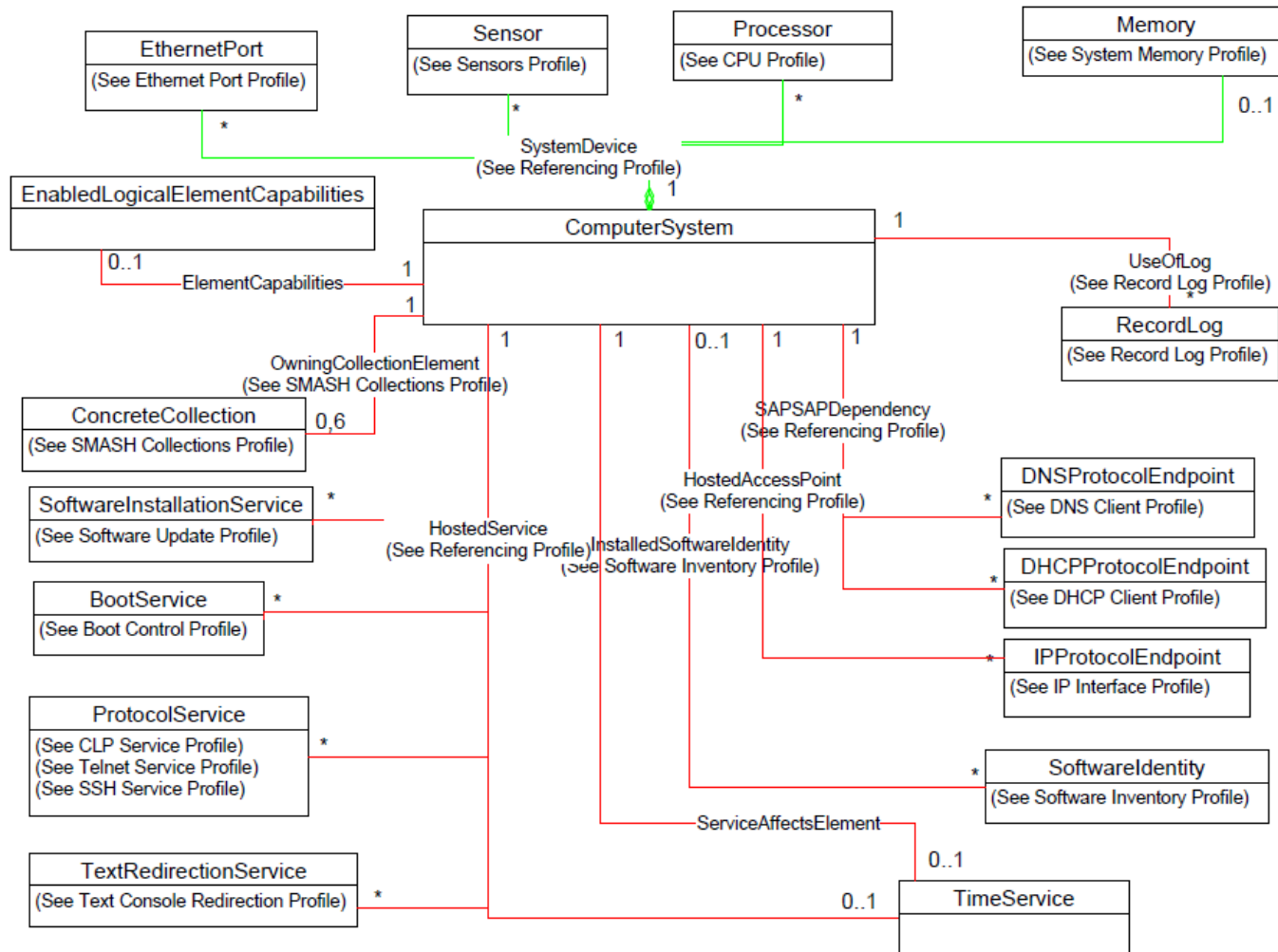
▶ Extension Schema are technology-specific extension to the common model

CIM Schema

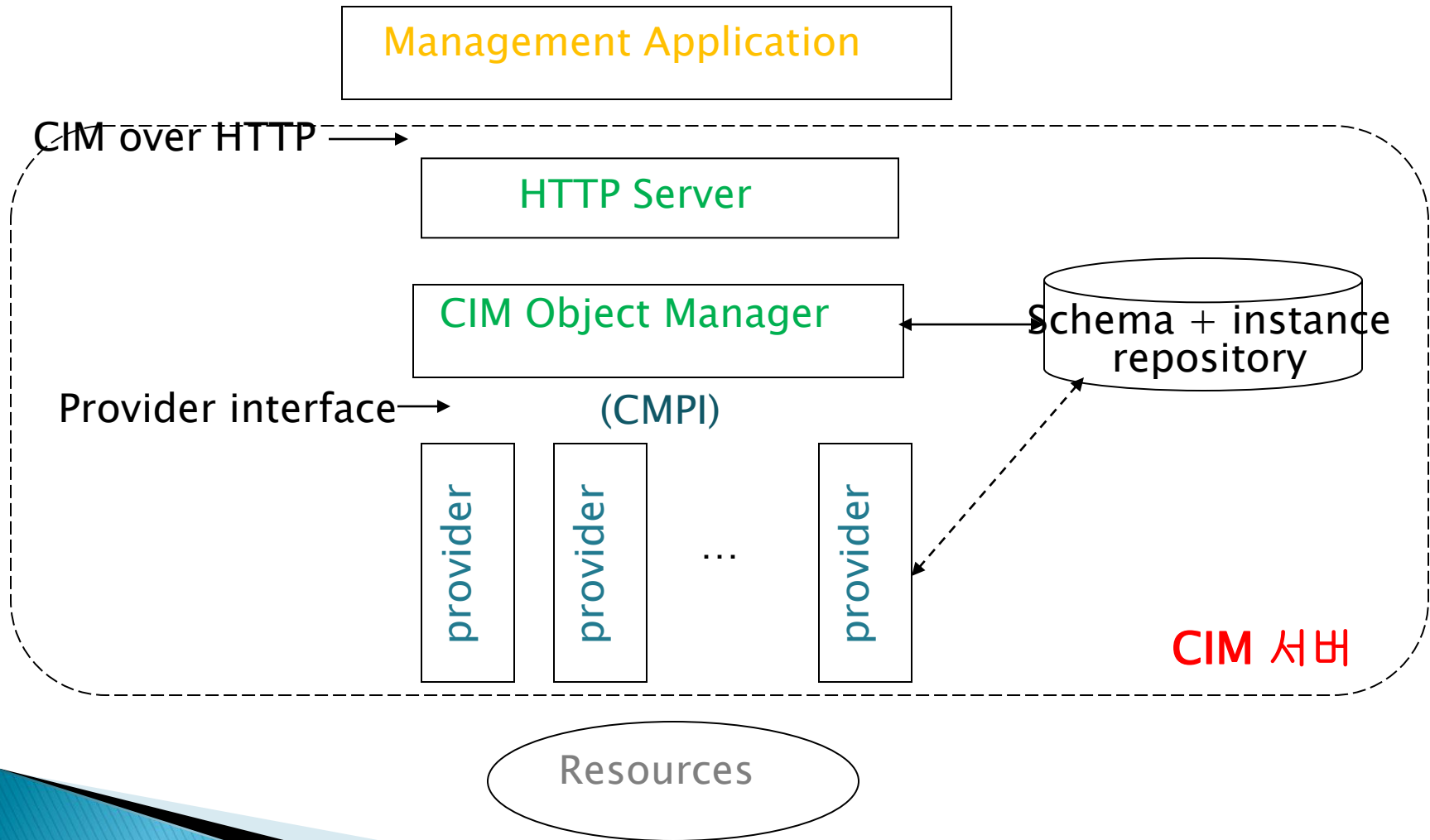
► OS Status Profile



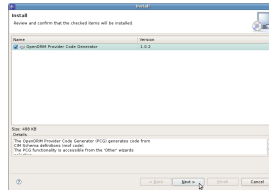
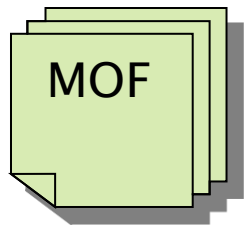
DMTF Profiles



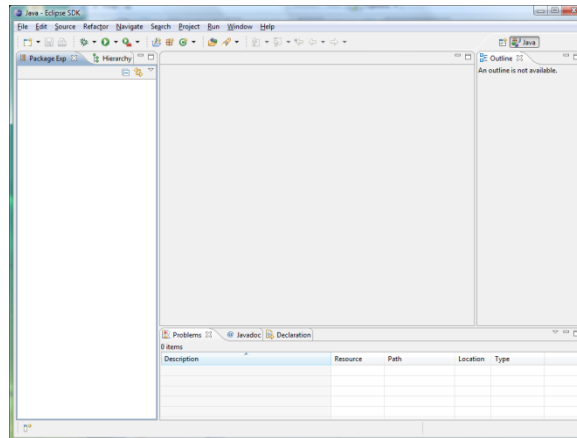
Manage Environment



Provider 개발



프로바이더 코드 생성기



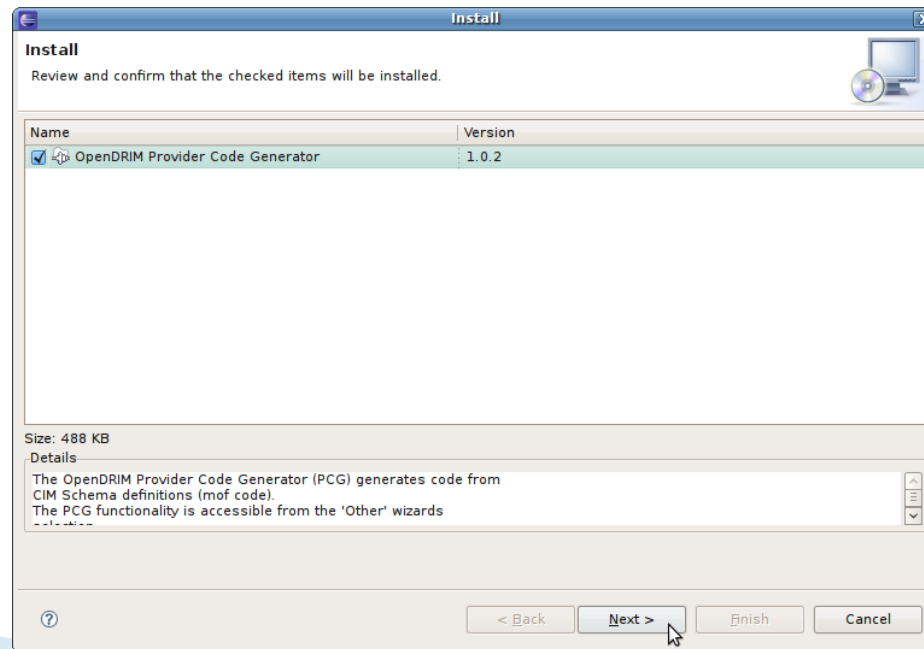
프로바이더 개발 환경



CIM 서버

Provider Code Generator

- ▶ 이클립스 플러그인
 - 1.0.7 (2010/05/06)
 - Software Update Wizard를 이용하여 자동 설치
 - <http://opendrim.sourceforge.net/PCG>





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현황 및 일정

형상 관리

▶ SVN(Subversion)

- <https://opendrim.svn.sourceforge.net/svnroot/opendrim/>
- Code Generator
- Linux Management Providers
- Provider Common Library
- 관리자: Guillaume BOTTEX

문서화

- ▶ **1. CIM Server**
 - [CIM Server installation/usage](#)
- ▶ **2. OpenDRIM providers Usage**
 - [SVN](#)
 - [Installation steps](#)
 - [WBEM client installation](#)
 - [WBEM client operation usage](#)
- ▶ **3. OpenDRIM provider Development**
 - [OpenDRIM Code Generator Installation](#)
 - [OpenDRIM Code Generator Usage](#)
 - [Eclipse Project Setup](#)
 - [OpenDRIM Linux Management Providers \(LMPs\) Development Guidelines](#)
- ▶ **Others**
 - [OpenDRIM Code Generator Bundling](#)
 - [Client/Provider Tutorial for beginners](#)

공모

- ▶ 대학생 / 일반인들을 대상으로 프로바이더 개발 공모
 - 총 5개의 프로바이더
 - 프로바이더 코드 생성기 제공
 - 공모 사이트 개설
 - 튜터리얼 제공
 - 번역 문서 제공
 - 세미나 개최
 - 멘토: 안창원(ETRI), 정영우(ETRI)

국제 커뮤니티와의 공조

- ▶ 2009년 Ubuntu(10.04, Lucid)에 Contribution
 - Long Time Support release
 - OpenDRIM PPA 제공
- ▶ 2010년 Ubuntu(10.10, Maverick)에 16개의 프로바이더 Contribution 계획(10월)
 - 2010년 5월 Ubuntu Developer Summit 참여
- ▶ 일본 NEC, Hitachi 중국의 Redflag와 프로바이더 개발 공조
- ▶ 메일링리스트를 통한 협업
<http://groups.google.com/group/opendrim>

주요 일정

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[illegible]

감사합니다.