



HPE Automatic Device Detection



The mobile industry is changing very rapidly, and one of the most visible parts of it is the mobile phone itself. New industry players have recently reshaped the handset landscape, and the handset population continues to evolve very rapidly. Consumers and mobile professionals buy new smartphones, or replace their previous phones, with the most advanced models that enable them to enjoy the new mobile data services.

For operators, if they want to stay “in control,” they absolutely need some form of tracking mechanism in real time that can help them pair which mobile device is used by which subscriber. By knowing the mobile phone model, it becomes possible to react to any change and adapt the services offering to the mobile phone capabilities, to provide the best user experience.

Also, keeping track of which mobile phones are used with which SIM cards increases the quality of after-sale service and customer care, allowing operators to react in real time when a subscriber changes his phone again.

The mobile operator needs a holistic view of its handset population, and to monitor the key trends of this population, such as: How long do people keep their current mobile phone? Are they moving from one device to another make or model? What is the market share of brand X vs. brand Y? And so on. This platform can also be used for highlighting some potential issues, such as fraud related to SIM gateway per box illegal use, as well as SIM cards being removed from M2M devices.

Overview

Hewlett Packard Enterprise (HPE) offers Automatic Device Detection (ADD) acts as it intercepts for GSM/3G networks, a proxy equipment identity register (EIR). It intercepts the enhanced MAP Check IMEI messages destined for the EIR, and extracts handset International Mobile Equipment Identity (IMEI) and SIM card International Mobile Subscriber Identity (IMSI) identifiers from the message. It can also be deployed in Long-Term Evolution (LTE) networks, and supports the appropriate new messages to be exchanged with the Mobility Management Entity (MME) and HSS. The subscriber phone number's Mobile Subscriber Integrated Services Digital Network number (MSISDN) is obtained from the Home Location Register (HLR) if not available in the message. This MSISDN, IMSI, IMEI triplet is compared with the previously stored values for the matching SIM card. Changes of IMEI indicate changes of handset and the new triplet is sent to external systems, such as a Mobile Device Management (MDM) system for subsequent actions.

In case the mobile network operator systems are already capable of detecting the handset change events in the Signaling System 7 (SS7) network, HPE ADD can be deployed in a gateway mode for translating these events onto Simple Object Access Protocol (SOAP) or HTTP messages for the external systems in the IP network.

Depending on network topology (colocated, separated, or no EIR), HPE ADD answers the intercepted MAP Check IMEI messages with a handset white, black, or gray list status, or relays them to the existing EIR.

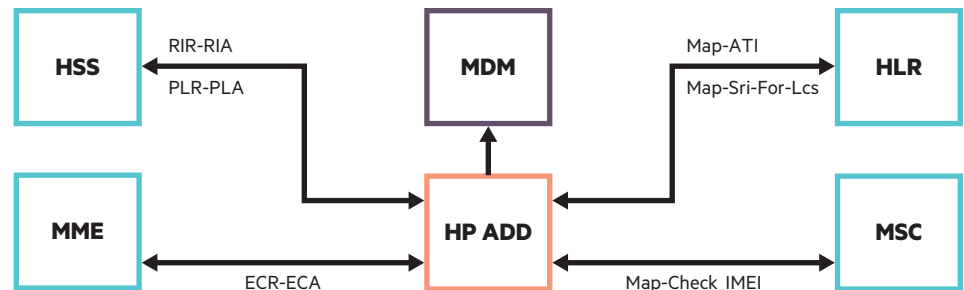


Figure 1: HPE ADD deployed in telecom networks

Additionally, HPE ADD provides:

- Extensions to leverage the signaling resources to extract other information—such as cell identification from the HLR and pass it along with the triplet to relevant applications
- Off-the-shelf tools to ease integration with the HPE MDM solution or other leading MDM vendors
- HPE EIR equipment identity register functionality that can operate colocated on the HPE ADD platform, or on separate servers
- HPE Direct Messaging Platform for sending over the air traffic related to handset configuration in an alternative manner, compared to the SMS-C
- The detection of cloned IMEI for fighting fraud and protecting operators' business

Acquire a new IT solution, manage existing assets, or dispose of equipment that no longer meets your needs.
HPE.com/go/HPEfinancialservices

Key features and benefits

Mobile network operators need to have real-time information on the subscriber handset changes, enabling them to capitalize on the opportunity to propose customized new services, based on the handset capabilities.

HPE ADD is a real-time network-based device detection solution, enabling mobile network operators to react to changes immediately, and helping them increase their mobile service revenue.

TECHNICAL SPECIFICATIONS

Servers	<ul style="list-style-type: none"> • HPE ProLiant or equivalent • Red Hat Enterprise Linux (RHEL) ES
Connectivity and interfaces	<ul style="list-style-type: none"> • SS7 MTP2 NSL and HSL, SS7 ATM in ITU-T, CHINA, and ANSI protocol standards • SIGTRAN M2PA, M3UA, and SUA
Performance and capacity	<ul style="list-style-type: none"> • 6,000+ transactions per second per server

High availability and scalability

HPE ADD can operate in a single server configuration, or on a high-availability cluster, with each server being active on the network. HPE ADD distributed implementation is transparent both for the service and the network. It allows sharing the processing load and helps prevent Single Point Of Failure (SPOF). This flexibility enables operators to make the best of existing resources and provides cost effective, scalable, and fault-tolerant platforms.

HPE Communications and Media Solutions can tailor the HPE ADD to suit unique service provider requirements, help reduce the total cost of ownership, and enable delivering new revenue-generating services. Our solutions can help cut costs, and at the same time build a foundation for competitive, compelling, revenue-generating services. We are ready to put our vast resources and expertise to work with you. Let's start with a discussion of your business strategies, tactics, and goals.

HPE Solution Lifecycle Services

HPE Solution Lifecycle Services for the communications and media industry help you realize the full value of your solutions, from planning and assessment through testing, deployment, operation, and nearly continuous improvement. Each service area leverages proven processes and best practices to balance CAPEX and OPEX and reduce risk, while keeping your projects on time, and your operations running smoothly.

Consulting

HPE Solution Consulting Services help define business transformation and translate strategies into actionable solutions.

Implementation

HPE Solution Implementation Services offer a low risk project lifecycle across design, development, customization, and network and system integration.

Management

HPE Solutions Management Services increase the operational efficiency of your existing solutions, including reactive, proactive, operational, and enhancement services.

Outsourcing

We offer a variety of sourcing options designed to improve business agility while reducing your OPEX; options include IT and infrastructure outsourcing, application management, and business process outsourcing.

Learn more at
hp.com/go/devicemanagement



Sign up for updates

★ Rate this document