International Packet Data Roaming Technical Data Sheet

CDG Document 124

Version 1.3

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CDMA Development Group
575 Anton Boulevard, Suite 560
Costa Mesa, California 92626
PHONE +1 888 800-CDMA
+1 714 545-5211
FAX +1 714 545-4601
http://www.cdg.org
cdg@cdg.org

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Revision History

Date	Version	Description
8 August 2005	1.0	Draft
1 April 2006	1.2	Changed to spread sheet format
26 April 2007	1.3	Updated IKE security paramters

1. Overview

1.1 Introduction

This document is a guide for completing a Technical Data Sheet for an operator to disclose information that should be shared with roaming partners that will be used in implementing packet data roaming. This form should be used in conjunction with CDG Reference Document #124.1, which is a spreadsheet used to capture this information.

TDS information should be exchanged after operators have ascertained that a packet data roaming arrangement is feasible based on the requirements and capabilities of each operator. CDG Reference Document #123, "Operator Requirements and Capabilities Form for Packet Data Roaming", may be used in this process.

1.2 Scope

This form applies to 1xRTT and/or EV-DO packet data roaming implementations under consideration. The form assumes there is an existing voice roaming implementation between the operators exchanging the information.

1.3 Usage

This document provides a guide to an accompanying spreadsheet document (CDG Reference Document #124.1). Operators should complete the spreadsheet and exchange completed forms once a packet data roaming agreement has been completed. The information captured in the Technical Data Sheet is generally considered sensitive, and care should be taken to ensure its protection.

1.4 Reference Information

Table 1-1: Roaming Industry Organizations

Organization	Description
CDG	CDMA Development Group www.cdg.org
CDG IRT	CDG International Roaming Team www.cdg.org/cdg/teams/international.asp

Table 1-2: Relevant Standards/Specifications

Ref	Standard	Description
1.	CDG Document #124.1	Spreadsheet portion of Technical Datasheet.
2.	CDG Document #122	Packet Data Roaming Checklist
3.	CDG Document #79	Wireless Data Requirements and Implementation
4.	CDG Document #116	Wireless Data Billing Requirements and Implementation
5.	CDG Document #94	CDMA Packet Data Roaming eXchange Guidelines

Table 1-3: Links to Additional Information

Resource	Details
CDG reference documents	www.cdg.org/members_only/ref_doc.asp
CDG roaming project	www.cdg.org/technology/roaming.asp

Table 1-4: Acronyms and Abbreviations

Acronym / Abbreviation	Description
CDG	CDMA Development Group
MS	Mobile Station
WAP	Wireless Application Protocol
MSID	Mobile Station ID

Acronym / Abbreviation	Description
MIP	Mobile IP
SIP	Simple IP
AAA	Authentication, Authorization, Accounting
CHAP	Challenge Handshake Authentication Protocol
COA	Care of Address
CRX	CDMA Roaming eXchange
DES	Data Encrypted Standard
DNS	Domain Name System
ESP	Encapsulating Security Payload
FA	Foreign Agent
HA	Home Agent
IP	Internet Protocol
L2TP	Layer 2 Tunnelling Protocol
LAC	L2TP Access Concentrator
LNS	L2TP Network Server
NAT	Network Address Translation
PAP	Password Authentication Protocol
PDSN	Packet Data Serving Node
RRQ	Registration Message
VPN	Virtual Private Network
VSA	Vendor Specific Attribute
WAP	Wireless Application Protocol

2. Key to Technical Data Sheet

This section provides an explanation of the information captured in the spreadsheet portion of the Technical Data Sheet. The spreadsheet is organized into nine different worksheets (tabs at bottom of spreadsheet). The content of these work sheets is described below:

Updates Sheet

- Operator name, website, and address.
- Content changes made to the spreadsheet and the date on which these changes were made.

Contacts Sheet

- Contact information of the individuals responsible for completing and managing the form. Time zone should be noted as GMT offset.

AAAs and Realms

- The host name (text) of each AAA.
- The IP addresses (both primary and secondary) for all AAA infrastructure.
- Subnets on which each AAA reside.
- The ports used by the AAA (usually 1812 and 1813).
- The AAA vendor and software version number.
- Realms that are used and the IP address of the AAA to which each realm should be mapped. In this way, the authentication and accounting records of outbound mobiles will be sent to the correct AAA based on the NAI supplied by the MS.
- Is each realm unique? (is it a fully qualified domain name and not used by any other operator?)

Attributes

- All of the required authentication and accounting attributes for outbound mobiles. CDG recommended/required attributes are captured in CDG reference document #116, “Packet Data Billing Requirements and Implementation.”
- The MCC/MNC is the mobile country code and mobile network code assigned to you. This should be populated in the Carrier-ID attribute.

PDSN-FA-LAC

- The host name (text) of each PDSN-FA-LAC. FA and LAC refer to Foreign Agent and L2TP Access Concentrator respectively, both of which are co-located with the PDSN, if present.
- The IP addresses for each PDSN. These should be public IP addresses (private assignment with NAT is not sufficient).
- Subnets on which each PDSN resides.
- The NAS (network access server) IP address, which is generally used for communication with the PDSN and hosts internal to the operator's network. This will be included in RADIUS UDRs, so it is useful to include this for testing purposes.
- The PDSN vendor and software version number.
- The IP Address pool from which the PDSN assign IP address for Simple IP service.

Home Agents and LNS's

- The host name (text) of each HAs (Home Agents).
- The IP addresses for each HA. These should be public IP addresses (private assignment with NAT is not sufficient).
- Subnets on which each HA resides.
- The HA vendor and software version number.
- The IP Address pool from which the HA assigns IP addresses to mobiles.
- The same information should be included for each LNS (L2TP Network Server).

DNS and Application Servers

- Public IP address and subnet of each DNS server.
- Information of each application server, including application (e.g. BREW), IP address, subnet, and vendor.

EV-DO System Selection

- City/Market refers to logical geographic market like a city where the EV-DO system is present.
- The State, Region, or Nation is the larger area in which the City/Market exists.
- The Subnet ID replaces SID/NID for EV-DO system selection. This is normally captured in hexadecimal format.

- The length is in the format of a subnet mask, and refers to how much of the Subnet ID should be considered for a match.
- The SID is a reference to the SID of a co-located 1xRTT system. This is useful for hybrid system selection and planning.
- The Band Class refers to the frequency at which EV-DO exists.
- The channel of each system should be specified individually.

Security

- Public IP address and subnet mask of each VPN server.
- IKE Security parameters
    - IKE Phase1 (ISAKMP SA)
    - Encryption : 3DES, etc.
    - Hash : SHA1, MD5, etc.
    - ISAKMP SA Lifetime : xxxx sec
- IKE Phase 2 (IPSec SA)
    - IPSec Protocol : ESP, AH, etc.
    - Encryption : 3DES, etc.
    - Hash : SHA1, MD5, etc.
    - PFS key group : group 1, etc.
    - IPSec SA Lifetime : yyyy sec
- The method of key exchange refers to the way in which keys are exchanged, e.g. over the phone, encrypted email, etc.