



MDMA SERVER ACCEPTANCE TESTING

SCE ACCESS TO EXTERNAL MDMA SERVERS

VERSION 4.0

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MDMA SERVER ACCEPTANCE TESTING

1.0 BACKGROUND

To correctly calculate transmission, distribution, and competitive transition charges for Direct Access customers, SCE will need to retrieve meter usage data for interval meters as well as meter reads and meter usage data for non-interval meters from external Meter Data Management Agents. The acceptance test defined in this document is intended to demonstrate to SCE that the external MDMA is able to calculate usage from meter reads; validate, estimate and edit that usage; post the usage in the approved EDI transaction set 867 – Product Transfer and Resale Report.

All MDMA's will be responsible for constructing and operating their MDMA server system to allow timely and secure transfer of applicable meter read and usage data between themselves and SCE. All potential MDMA's must meet the acceptance testing requirements detailed in this document, as well as the additional compliance testing requirements pertaining to the education and training of MDMA personnel.

For successful completion of MDMA server acceptance testing, the applicant will meet the following 5 requirements and ensure that SCE can:

1. Access the potential MDMA's server;
2. Access SCE's meter read and usage data;
3. Download SCE's meter read and usage data;
4. Interpret SCE's meter read and usage data and verify proper validation, editing and estimation;
and
5. Ensure that downloaded data is SCE's only.



2.0 SCOPE

Intent

This document identifies the duties and responsibilities of all ESPs and other entities who wish to construct and operate their own MDMA servers. Compliance with the MDMA interim standards defined in the December 3, 1997 CPUC Decision on the Meter and Data Communication Standards Workshop Report is a condition of participation in the new market.

Applicability

This document details requirements for SCE's acceptance of an external MDA server. Each potential MDMA will have to pass this acceptance test as part of the compliance requirement contained in the December 3, 1997 CPUC decision.

Until such time as either standards are established, or SCE, PG&E, and SDG&E reach consensus on the acceptance testing process, Southern California Edison will test each of the ESPs/MDMAs on the type of data (interval or non-interval) based on the services they are applying for in the service territory. During the scheduling of acceptance testing, applicants will be asked about the type of data they will be tested on. Applicants may choose interval or non-interval data (or both). Should the scope of the applicants' services change at some point in the future, they may be required to be re-tested for qualification purposes. It will be the responsibility of the applicant to inform Southern California Edison of any scope changes in services offered.

3.0 CRITICAL ASSUMPTIONS/RISK ASSESSMENT

- The Internet will be a reliable transport medium with respect to volume and security for the near future.
- IDR usage data will be captured in 15-minute intervals.
- Non-IDR reads and usage data will be required for billing purposes.
- There is no standard MDMA software.
- MDMAs have completed appropriate paperwork to conduct business in SCE's service territory.
- MDMA servers will store both interval meter usage data and non-interval meter reads and usage data.
- SCE will screen the qualifications of potential MDMAs by comparison with SCE's standards.¹
- All criteria listed for SCE's MDMA server will apply to ESPs (or contracting parties) acting as MDMAs.

¹ Opinion Regarding the MDCS Workshop Report, Administrative Law Judge Ruling, R.94-04-031, I. 94-04-032, December 3, 1997, Note 29, p. 54.

4.0 CRITERIA

System Interface:

All MDMAs will construct an Internet-addressable server to act as the interface with SCE.

Prior to scheduling an acceptance test (see Section 5.0) each MDMA applicant will provide SCE with the following:

- ESP / MDMA name
- CSS customer number
- URL (DNS name registered with InterNIC)
- Help desk phone number
- Contact names
- Electronic mail address
- Business address and telephone number
- Dun & Bradstreet (D&B) company number

Data:

1. Delivery
 - a) The MDMA must provide current and requested archive data in a timely manner. For current data, the MDMA will upload to SCE's MFT server daily for SCE to retrieve instead of store them on MDMA's server.²
 - b) The MDMA must have a contingency plan in place to deliver data if the Internet should fail.
2. Retention Time

The MDMA must post all current meter data to the MFT. Data must then be archived for at least 3 years.³
3. Data Differentiation

The MDMA will post required information in SCE's mailbox. SCE will not be able to retrieve another party's meter data nor will another ESP / MDMA be able to access SCE's mailbox.
4. Meter Reading Dates

The MDMA shall read interval meters on the utility's scheduled meter reading data.⁴

² Opinion Regarding Direct Access Implementation Plans and related Tariffs, Decision 97-10-087, Appendix A, Section M (3)(a).

³ Ibid., Section H (7)(d).

⁴ Ibid., Section I (6).

5. Format

The MDMA will provide usage data for interval meters, and reads and usage data for non-interval meters in the EDI 867 Product Transfer and Resale Report Transaction set Protocol.

6. Timeliness

The MDMA will be compliant with data timeliness standards. Information will be provided as follows:⁵

Interval Data:

- 80% of all usage data available on 1st day after schedule read data;
- 90% of all usage data available on 2nd day after schedule read date;
- 99.99% of all usage data available on 5th day after schedule read date.

Non-Interval Data:

- 85% of all monthly meter readings available by 6:00 a.m. on the 1st working day after the scheduled meter read date;
- 95% of all monthly meter readings available by 6:00 a.m. on the 2nd working day after the scheduled meter read date;
- 99.99% of all monthly meter readings available by 6:00 a.m. on the 5th working day after the scheduled meter reading data.

Data timeliness will allow SCE to conduct its business efficiently. If the MDMA is not able to fulfill this requirement, it will notify SCE as soon as possible and inform them when and how to expect the data.

7. Integrity

The usage data on the MDMA server will be calculated, validated, estimated and edited (9BEE) prior to posting to the SCE's mailbox. The information on the MDMA server will be account information, meter reads and usage data that are in a settlement ready format. The MDMA will be in compliance with the standards for VEE contained in the December 3, 1997 CPUC Decision on the meter and Data Communications Standards Workshop Report.

If incomplete or invalid usage data and / or account information is detected, SCE will notify the MDMA's help desk. The MDMA must have procedures and processes to correct usage data and account information.

Systems Requirements

1. Clock

The clock on the MDMA server will be synchronized within 60 seconds of Greenwich Mean Time (GMT).

2. Bandwidth

At this point, no specific bandwidth requirement has been identified. Unanticipated volume of traffic may necessitate a change in this requirement.

⁵ Opinion Regarding the MDCS Workshop Report, Administrative Law Judge Ruling, R.94-04-031, I.94-04-032, December 3, 1997, pp. 31-32.

3. System Availability

The MDMA server will operate on a 24-hour / 365-day basis except for scheduled outages.

4. Precautionary Efforts

The MDMA must have system backups stored off-site in a secured facility.

The MDMA may have additional scheduled downtime that totals less than 8 hours per month and may only occur between the hours of 2 a.m. and 5 a.m.

5. System Outage Notification

The MDMA will notify SCE in advance of scheduled outages and within 30 minutes of any unscheduled maintenance. Any outage that occurs outside of the window between 10:00 p.m. and 8:00 a.m. is considered unscheduled maintenance.

6. Disaster Recovery (See Section 9, MDMA Disaster Recovery Plan)

Major Disasters: The MDMA must have a disaster recovery plan that will allow it to recover from a major disaster within twenty-four (24) hours. The recovery plan may include having access to a backup MDMA server located at a geographically separated site (at least 50 miles) and means to publish data on the back-up server. A major disaster may be a building fire or telecommunications interruption. This 24-hour requirement would not apply in the event of a large-scale disaster that destroys both primary and back-up MDMA server sites.

Minor Disasters: The MDMA must have adequate system redundancy and an acceptable recovery plan that will allow it to recovery from a minor disaster with outage that lasts no more than two (2) hours. A minor disaster consists of a hardware failure.

Worst-Case Scenario: The MDMA's disaster recovery plan will include a worst-case provision to ensure that no data is lost (even if another set of physical meter reads must be taken).

7. System Access

Procedure (Assume Inbound MDMA)

SCE will provide mailbox access to the MFT server for the MDMA.

Mailbox Access Control

SCE MFT Support will regulate mailbox access; MDMA's and ESPs will only be able to access their designated mailboxes.

Frequency Control

SCE will access each MDMA's mailbox on the MFP server five (5) times each day (6:30, 10:30, 13:30, 15:30, 17:30) and will download all data.

• Security / Protocol

Data Transfer Protocols

As the Internet has been chosen as the transfer medium, the following protocols have been selected to be the lower-level software that provides for data byte streams and data packet delivery services, security and data file transfer services.

- TCP/IP for data stream provision and addressing.
- SSL (Secure Sockets Layer) for data encryption.
- HTTP (Hypertext Transfer Protocol) for data transfer.

Password

As detailed in the MDCS workshop document, data transfer passwords must be changed every twelve (12) months. However, SCE will not be assigning expiration dates during implementation; SCE has this capability under consideration and will notify MDMA's when functionality is available.

Confidentiality

The MDMA will have confidentiality agreements in place with all its employees and agents as well as the organization as a whole.

Customer-specific information is confidential and should not be released to third parties without customer authorization. Customer-specific information includes name, service address, billing address, phone number, credit information, electric usage and billing amounts, and meter information. Per D.97-10-031 customer approval can be "a consent form a letter from the customer on the customer's letterhead, which is signed by the customer, and which contains account information to ensure the UDC that the customer signing the form is indeed the same customer whose information is to be released." The Commission also permits Edison to "include in the released information a statement that the information contains confidential customer information and that the information is not to be released to anyone else without the customer's explicit consent."⁶

Since information placed on the MDMA server will contain confidential information, the MDMA must have procedures and security measures to ensure that only the ESP of the customer and SCE can access the data on the server. In addition, the MDMA will follow the same procedures to release customer information as described in D.97-10-031 and also comply with CPUC 394.4(a).⁷

⁶ D.97-10-31, page 15.

⁷ PUC 394.4(a) states: (a) Confidentiality: Customer information shall be confidential unless the customer consents in writing. This shall encompass confidentiality of customer specific billing, credit, or usage information. This requirement shall not extend to disclosure of generic information regarding the usage, load shape, or other general characteristics of a group or rate classification, unless the release of that information would reveal customer specific information because of the size of the group, rate classification, or nature of the information.

Help Desk/Support

The MDMA will provide 24 hours a day / 365 days a year access to technical and business assistance. Staff will be available to address questions and concerns on data availability, data corruption and adjustments, and systems technical support. The MDMA must provide SCE with the Help Desk contact information including help desk phone number, email address, contact names and pager numbers. This information must be provided to SCE during the acceptance testing scheduling process.

Performance Measurement

Meter Data Management will be performed in accordance with CPUC regulations and relevant decisions. Additionally, MDMA's must comply with the pertinent Meter Data Management requirements identified in this document.

5.0 MDMA ACCEPTANCE TEST PROCEDURE

Process

1. As part of the required documentation described on the checklist, the MDMA applicant will provide SCE with the system specifications for the MDMA server. This documentation should indicate compliance with the following:
 - Clock on the MDMA server is synchronized within 60 seconds of Greenwich Mean Time (GMT).
 - Access codes are adequately managed.
 - Network Architecture is secure.
 - Data can be accessed in a secure manner.
 - Data can be transferred in a secure manner.
 - Data can be stored in SCE's mailbox on MFT server.
 - Data can be archived for at least three (3) years at a backup storage facility.
 - Archived data can be retrieved from the backup storage media.
 - There is an adequate audit trail.
 - File format is in compliance with SCE's specification.
 - Data format is in compliance with SCE's specification.
 - File naming is in compliance with SCE's specification.
 - There are system outage notification procedures.
 - There is a disaster recovery plan.
 - There is a contingency plan to deliver the data.
2. After SCE's receipt of the required documentation, the MDMA applicant will contact the Meter Operations Support Desk (MOSD) at **1-800-203-4634** to schedule acceptance testing. This can be done at any time after SCE has received the documentation and can be concurrent with SCE's evaluation of hiring / training requirements).
3. SCE's MOSD will provide the MDMA applicant with the date and time when acceptance testing will be conducted.

During scheduling of acceptance testing, the MDMA applicant will identify the type of data to be used during the test (i.e., interval, non-interval, or both). It is understood the MDMA applicant will be tested using the same type of data in the scope of the MDMA services they wish to perform. Should the scope of the data management expand, additional testing will be required.

4. MOSD will contact applicant at pre-arranged time to begin acceptance testing.

5. MOSD will e-mail test data to MDMA applicant at prearranged date and time. (Alternative method of data delivery will be via Federal Express of diskettes. MOSD will utilize Federal Express to determine time of delivery.)
6. MOSD will then contact applicant via phone to confirm e-mail was received at pre-arranged time to begin acceptance testing.
 - EDI formatted data will contain meter ID code, meter characteristics and input provided by the meter read. All read detail (e.g., record interval) will be consistent with the corresponding meter characteristics.

Interval Data

- ◇ The volume of the test data will be two (2) months of usage data for ten (10) customers (i.e., total of twenty (20) months of data).
- ◇ The format of the test data will be in comma-delimited format.
- ◇ The test data will contain a wide range of usage scenarios including, but not limited to: sum checks, spike checks, KWH, multiple channels, Hi/Low issues, plugging data for less than two (2) hours, plugging data for greater than two (2) hours, meter multipliers, and pulse multipliers.

Non-Interval Data

- ◇ Usage information on 10 service accounts
- ◇ 2 months of data for each service account (total of 20 months)
- ◇ Meter IDs

- **Template file**

This file will contain a template of the summary report to be posted to the MDM server by the MDMA.

7. Upon receipt of EDI formatted data, the MDMA applicant will demonstrate the following capabilities.
 - **Calculate Usage**
 - **Validation, Editing, Estimation (VEE) and Data Exchange**
8. Within **48** hours of receiving the EDI formatted data, the MDMA Applicant will post data to MDMA server and e-mail a summary report to MOSD.
9. MDMA applicant will e-mail the Meter Operations Support Desk (metering@sce.com) with notification of data availability and with summary document identifying the failure points.
10. SCE will verify that it can retrieve and read information from MDMA applicant's MDMA server.
11. The Meter Operations Support Desk will notify the MDMA applicant, via electronic mail, of the acceptance test results (pass or fail).
(SCE will compare the output report to its predefined data by service account. Passing requires 100% correspondence.)



6.0 Applicable Standards

1. The ANSI ASC X 12 EDI 867 – Product Transfer and Resale Report Transaction Set, TCP/IP, SSL, and HTTPS will be used as the data transfer protocol standards.

7.0 Documentation

1. Opinion Regarding the Meter and Data Communications Standards Workshop Report, Ruling of Administrative Law Judge John Wong, R.94-04-031, I.94-04-032, December 3, 1997.
2. Opinion Regarding Direct Access Implementation Plans and Related Tariffs, D.97-10-087.



8.0 GLOSSARY

CMEP (California Metering Exchange Protocol) – An interim meter data format standard developed by PG&E.

CPUC – California Public Utilities Commission

EDI (Electronic Data Interchange) – computer-to-computer exchange of structured information by agreed message standards which are overseen by the American National Standards Institute.

ESP (Electric Service Provider) – An entity that provides energy supply and other related services (including MDMA).

HTTP (Hypertext Transfer Protocol) – The TCP / IP-based communications protocol that defines how clients and servers communicate over the Internet.

IDR (Interval Data Recorder) – An electric meter that reads electric consumption in discrete time units.

MDCS (Meter and Data Communications Standard) – Interim standard on metering and meter data developed by UDCs, ESPs and other market participants.

MDMA (Meter Data Management Agent) – The entity responsible for acquisition of meter data from meter data collection devices; validation, estimation and editing of data; transformation of the raw data into usage; and providing access to data. SCE is the MDMA for meters that are being read for other parties. External MDMAs provide SCE with usage for meters we are not reading.

MOSD – Metering Operations Support Desk

SSL (Secure Sockets Layer) – A data encryption protocol used to provide a secure connection between two entities communicating over the Internet.

TCP/IP (Transmission control protocol / Internet protocol) – The basic suite of protocols on which the Internet operates.

UDC (Utility Distribution Company) – CPUC-regulated entity that provides traditional distribution and customer services.