



## AT A GLANCE

### Client

A regulated, vertically integrated power utility serving 2.1 million residential, commercial, and industrial customers (80 percent of Hong Kong's population) over 1,000 square kilometers.

### Challenge

Integrate and manage billing information to create a streamlined process that offers customers a choice of what format and channel they would like to receive their bill in.

### Solution

StreamServe Utilities extends CLP's online bill presentment capabilities and facilitates access to valuable information from legacy and packaged applications.

### Results

Improved cash flow from shorter bill delivery time and lower TCO from a single solution.

## Asian utility giant puts its billing process together with the help of StreamServe®

Operating as a regulated, vertically integrated, customer-focused power company, CLP Power Hong Kong is the largest utility in Hong Kong, responsible for providing power to more than 2.1 million residential, commercial, and industrial customers.

CLP, formerly China Light & Power, provides electricity-generation, transmission, and distribution services to 80 percent of Hong Kong's population over 1,000 square kilometers.

To meet customer demand, CLP operates three power stations in Hong Kong and leases energy rights from two mainland power facilities. In addition to its leadership in innovation, supply reliability, and environmental practices, CLP also places a strong emphasis on creative business communications to support a key business process – customer billing.

### Facing significant customer communication challenges

As customer expectations rise, utility companies are increasingly seeking new ways to evolve beyond a single billing channel (typically a monthly mailed statement) and begin tailoring bills to customer preferences. Those preferences can encompass not only the information in the bill, but also the manner and format in which the bill is delivered.

Operating in one of the most populous and diverse cities in the world, CLP faced significant communication challenges in its billing processes, including:

- **Volumes of Bills** – Each day, CLP processes up to 120,000 billing statements in numerous print formats, representing 8-12 GB of data
- **Multiple Languages** – In addition to native residents, Hong Kong is home to many expatriates. As a result, utility bills must be offered in both Chinese (Cantonese) and English
- **Face-to-Face Payment** – In Hong Kong, many customers pay their bills in person at CLP kiosks located throughout its supply territory, reflecting long-standing cultural traditions in which the company and customer maintain a strong personal, face-to-face relationship
- **Postal and Courier Delivery** – In Hong Kong, many bills are delivered to customers through Hong Kong Post. However, in heavily populated apartment buildings and housing estates, CLP company couriers also hand deliver bills.



**StreamServe has enabled CLP to offer a higher level of value in our billing process.”**

Andre Blumberg,  
Technology Management  
Manager,  
CLP Power Hong Kong, Ltd.

- Extensive Archiving Needs – Not only must CLP manage the initial billing process, it must also archive each individual bill for future reference by customer service representatives. Given the number of customers, archiving presents substantial technical challenges

Responding to these challenges, CLP elected to deploy a comprehensive bill-presentment and payment system using StreamServe Utilities™. The solution is part of a larger framework that encompasses technologies from Microsoft, SAP, Accenture, and IBM, and enables CLP to offer superior Enterprise Document Presentment.

**CLP billing: The technical landscape**

As the diagram below shows, CLP’s meter-reading system gathers and forwards power-consumption information to a Microsoft BizTalk server. The BizTalk server aggregates and standardizes the information and sends it to SAP R/3.



The billing process is initiated when CLP’s SAP R/3 system sends a raw data interface (RDI) stream (up to 12 GB in size) to the StreamServe Server. StreamServe Utilities converts the RDI file to an AFP (advanced function presentation), that it forwards to CLP’s mass printing, folding, and mailing system.

In addition to traditional hard copy, StreamServe Utilities extends CLP’s bill presentment capabilities beyond paper by distributing billing information online. A Web self-service application offers customers access to their own data, which enables them to manage their billing preferences.

**Helping release value in CLP’s billing process**


Perhaps the biggest challenge in CLP’s billing process is gathering and managing the information from diverse sources. StreamServe addresses this challenge by not only providing reliable integration with SAP, but also by sharing information with numerous legacy and packaged applications.

For example, StreamServe Utilities provides access to bills more than 12 months old that are stored in an archival system populated with data from a retired legacy application. Not only does StreamServe Utilities access information in the legacy archive, it updates the appearance and presentation of these bills as well. This helped CLP overcome technical hurdles and – more importantly – extended the useful life of CLP’s technology investments.

## Supporting CLP's innovative billing practices

Twenty years ago, bill presentment meant insuring a customer received an accurate, timely bill. Today, total bill presentment means offering a highly personalized interaction through holistic and flexible communication. By offering a proven enterprise document presentment solution, StreamServe Utilities supports CLP's innovative billing practices, enabling it to provide more value to its customers. CLP relies on StreamServe to support existing billing processes while building innovative billing processes that deliver more value to customers.


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**中華電力**  
**CLP Power**

Registered Customer & Supply Address

**WINNIE CHEE**  
Prof. Gary Leung  
35, 15  
FUK WA STREET  
SHAM SHUI PO KOWLOON, KOWLOON  
香港



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Prof. Gary Leung  
35, 15  
FUK WA STREET  
SHAM SHUI PO KOWLOON, KOWLOON  
香港

Account Number  
85181-73109-9

Normal Bill

Bill issued on: 20.09.2007	From 20.07.2007 thru 20.09.2007 For 83 days of consumption	Deposit Held: \$68.0
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Electricity Charge	@ 066.20	63.0 units	54.31
Energy charge	@ 066.20	63.0 units	54.31
Scheme of Control Rebate	@ 000.60	63.0 units	-0.38
Special Rebate	@ 002.20	63.0 units	-1.39
Odd Cents Brought Forward	@ 002.20	63.0 units	-1.39
Odd Cents Carried Forward	@ 002.20	63.0 units	-1.39
Demand Side Management Charge	@ 002.20	63.0 units	-1.39
Fuel Clause	@ 001.90	63.0 units	1.2
Business Relief Rebate	@ 002.20	63.0 units	-1.39
Testing1	@ 002.20	63.0 units	-1.39
Testing2	@ 002.20	63.0 units	-1.39
Testing3	@ 002.20	63.0 units	-1.39
Sub Total		0.0 units	53.74
<b>Total Amount</b>			<b>\$177.64</b>

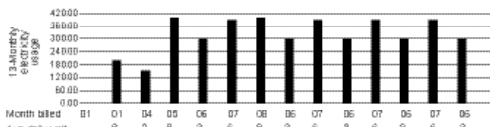
Bill type & merchant code No.: 02

**Due Date**  
30.09.2007  
by autoPay

**Total Amount Due**  
\$177.64

If this bill is not paid by the due date, a 5% latepayment will be charge will be imposed on your account.

Thanks for your payment  
\$144.59 on 15.07.2007  
Next bill will be issued at around 30.09.2007



Month billed: 01 01 04 05 06 07 08 06 07 06 07 06 07 05 02  
Avg daily UNIT  
Avg daily temp °C

E=Estimated A=Adjusted C=S of reading

**Message for Customer**


In response to customers' feedback, we have highlighted the amount payable and the due date.

To encourage customers to pay bills timely, 3 Timely Payment Lucky Draws would be held from April to December. For details, please visit our Customer Service Centers or website: [www.clpgroup.com](http://www.clpgroup.com).  
Testing of Messages - 5 lines

Payments included up to 20.09.2007

Account number :85181-73109-9

Total amount Due: \$177.64 by autoPay 01.08.2007



851817310995302

Stub

Billing with graphics, bar coding, and OMR markings



**We were pleased  
with the integration  
capabilities  
StreamServe offered.”**

David Townshend, Partner,  
Resources Operating Group,  
Accenture Hong Kong

## Enabling CLP to get personal with its customers

CLP Power simultaneously manages electronic bill presentment and payment as well as in-person and traditional postal-delivered payments. StreamServe Utilities simultaneously supports these various communication touch points and has helped the company improve its mass-billing capabilities. Today, CLP offers 70 different billing formats for paper bills. In addition, StreamServe Utilities enables it to personalize bills and dynamically sort bills based on recipients.

StreamServe's output flexibility means CLP can support long-standing cultural traditions of paying bills in person. At CLP payment kiosks throughout its service territory, service representatives can help customers access and pay their bills. Customers can also view and print bills at home and then bring them to a CLP kiosk for payment.

Customers who don't want to pay in person or have questions about their accounts can use a Web browser to access their account details (from their last six billing periods) and print their bills on their own printer or request a bill be sent via fax. This flexibility creates a higher level of business value associated with the billing process.

CLP's sophisticated customer service and call center helps customers get answers to billing questions. However, those reps need access to large volumes of data. In partnership with IXOS, StreamServe created a unique solution for this storage problem. Instead of storing the billing document in a format that requires significant disk space (such as .PDF, JPEG, or .DOC), StreamServe Utilities archives only raw data and produces the original document on the fly. That dramatically lowers storage costs while a billing in its native format so that the service representative and customers are viewing the same document.

While CLP's back-end business systems provide only basic billing information, StreamServe Utilities supplements this with added personalization. Perhaps the most striking example of this innovative capability is StreamServe's ability to produce utility bills in Braille. While these don't represent a significant percentage of CLP's bills, they are highly valued by the visually impaired customers who receive them. StreamServe Utilities exports billing data to a Braille embosser that produces bills.

