

# THE COMPUTERWORLD HONORS PROGRAM

## CASE STUDY



LOCATION:  
*Taipei, Taiwan*

YEAR:  
*2006*

STATUS:  
*Laureate*

CATEGORY:  
*Business and Related Services*

NOMINATING COMPANY:  
*Microsoft*

### ORGANIZATION:

Chunghwa Telecom Co., Ltd

### PROJECT NAME:

CHT-1288 Operator Assisted Yellow Page System

### Summary

The responses below describe Chunghwa Telecom's successful development of CHT-1288, Taiwan's first integrated Operator Assisted Yellow Page System. This voice portal directory service will not only provide detailed commercial information to subscribers who seek merchants or services, but will also help businesses improve revenue opportunities and provide better service to their customers.

CHT-1288 is an enhanced version of Chunghwa's 104 directory service. Previously, 104 ran on three independent database systems in three service centers located across Taiwan. Subscriber inquiries were handled by almost six hundred customer service agents. With CHT-1288, the three standalone database systems have been integrated into a single database system that is accessed by all three service centers. Chunghwa has successfully raised the overall level of customer satisfaction and in the process, also created a new revenue stream with the service.

Since the implementation of CHT-1288, Chunghwa has seen a 30 per cent reduction in operational costs. Today, the same number of customer service agents handle an average of half a million calls daily.

### Introductory Overview

Chunghwa Telecom (CHT)'s "1288 Operator Assisted Yellow Page System" (OAYP) is a new telephone value-added service. It was built on the existing Chunghwa Telecom 104 Directory Service platform.

All commercial fixed network subscribers' data were analyzed and classified into categories to produce a 1288 OAYP PORTAL database. This commercial database contains fourteen unique data fields such as merchant's details (example: characteristics, addresses, list of outlets, web site, e-mail address and phone numbers, operating hours, services offered, payment methods) and other on-premise facilities and promotions. It also captures information such as the nearest parking lots, valet services as well as transport routes by transportation mode.

In order to provide the fully integrated information service, CHT-1288 included many of the latest technology available, such as Automated Voice Directory Inquiry, Call Complete Service,



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Location-Based service (LBS), Geographic Information Systems (GIS) and Computer Telephony Integration (CTI). The integration of these technologies with the information-rich CHT-1288 database forms the core of the service.

In the original 104 directory services a subscriber was required to provide as much exact information about the merchant in order for the service operator to identify the merchant and provide the phone number. The subscriber then had to jot down the merchant's phone number with pen and paper.

With CHT-1288, subscribers do not need to provide exact information to the service operator. Based on general information provided by the subscriber, the agent is able to identify a list of merchants providing the required service within the vicinity of the subscriber with the help of the system. The subscriber can then choose to have the information sent to him on his mobile device or via email. If the subscriber needs immediate assistance from the merchant he is seeking, the system can transfer the call directly to the merchant. This provides subscribers with convenience and instant information at all times.

CHT-1288 is able to use information collected by stores, hotels, and restaurants that contain geographic or spatial reference, for example, a store address or customer ZIP code captured at the point-of-sale, to provide better service to all.

The service uses both the LBS and GIS systems to get a positioning on the call this function works in two ways: "caller positioning" and "merchant location positioning." This positioning function allows the call center agent to locate all possible merchants in the vicinity of the subscriber. The system will rank the merchants according to the distance in respect to the caller's position.

To reduce the response time and improve service quality, a complete call feature was built into CHT-1288. Depending on the subscriber's requirements, the agent can do the following: -

- Transfer the subscriber to the Offline Number Announcement system which uses CTI and Interactive Voice Response (IVR) to provide the information to the subscriber. The automated system will provide the subscriber with crisp clear information over the announcement system and frees up the agent to attend to the next subscriber in the queue.
- Display the requested information to the subscriber and guide the caller to the identified merchants that are labeled on an electronic map.
- Connect the subscriber to a merchant so that the merchant can respond to the subscriber's inquiry directly. If the given number is busy, the system will try an alternative number to complete the call. This gives the subscriber instant access to the right information, and creates a potential sales opportunity for the merchant and enhances customer service.

### Benefits

Since CHT-1288 was launched, it has resulted in: -

- Shorter call handling time for customer service agent, from 26 seconds per call to 20 seconds per call.
- Increased number of inquiries responded to per agent, from 110 per hour to more than 135. This indicates an increased work efficiency of more than 20 percent.



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- Increased customer satisfaction from subscribers as they are able to access all aspects of the service 24x7
- Over 24,000 merchant advertisers have signed up to CHT-1288 and the numbers are increasing by 10 per cent each month
- Increased sales for businesses who list with Chunghwa's directory service.

Here are two examples of how the service was used to satisfy callers' needs: -

Situation 1: A caller's main door was damaged after a typhoon and he needed to find a locksmith in his area urgently. He called CHT-1288 and the customer service operator immediately entered information provided by the caller. The system was able to triangulate the location of the caller with LBS and GIS, and searched its database to locate locksmiths in the vicinity. A list of locksmiths within a radius from where the caller is located was generated, and the service officer was able to help the caller identify the closest locksmith who is able to provide the service he is looking for.

Situation 2: A caller requires roadside assistance on a highway as his car has broken down. He does not know his exact location on the highway but dials CHT-1288 service center on his mobile phone and requests for 24 hour road assistance. The customer service agent can guide the subscriber to the nearest roadside assistance call booth or transfer the subscriber to the roadside assistance call center for further assistance.

Other telecommunications service providers could learn from Chunghwa Telecom on how we have harnessed various technologies to provide a useful service to our merchants and subscribers.

### The Importance of Technology

CHT-1288 was built on a new service-delivery platform based on Microsoft technology, a step that dramatically reduced the time required to integrate new subscriber services with existing systems. The problems Chunghwa faced were not unique. Increased competition has eroded profit margins, and has forced companies to find new ways to streamline their operations in order to reduce costs. At the same time companies are under pressure to incorporate the latest technologies.

Chunghwa understood that technology by itself was not the solution; the greatest impact on any business is people, enabled by effective solutions that deliver results. Today, software and information technology provide powerful tools to all businesses and their employees. A "connected business" not only leverages a flexible, economical technology platform that drives results, but focuses primarily on its greatest asset: people who are empowered to act on the right information at the right time.

Accelerate Results

Chunghwa wants to be recognized as a market leader that excels in: -

- Developing intimacy with their customers as a way to foster loyalty and repeat business
- Creating services that customers find indispensable.
- Managing a business in the most efficient way possible, cutting costs and improving productiv-



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### Customer Intimacy

Good customer relationships are essential for the long-term success of any communications business. In the telecommunications sector, competition has never been more intense—and customer-service satisfaction has become the single most influential factor affecting the acquisition and retention of customers.

### Operational Excellence

Operational excellence includes all the actions a communications company takes to improve the efficiency of its operations—to streamline workflow, increase employees' productivity, and control costs. Innovative software and technologies can make a major contribution in this regard.

Success in today's business environment requires building strong, flexible connections within a dynamic network – connections that allow people to adapt quickly to change and harness it to meet business objectives.

CHT is using Microsoft technology to facilitate the creation of operator-developed services and content that target specific customer segments.

### Originality

Location-based services allow companies to better understand and serve their customers. These services can be customer-facing or designed to help employees be more productive.

CHT-1288 offers a 24x7 live customer service hotline that caters to both young and old. Because it has an initial human interface element, it is user-friendly, convenient and non-daunting to those who may not be so well-versed with automated self-service technology. In addition, it also packages and delivers information to those who have embraced technology, by allowing them to select how they want their information delivered to them.

It is able to support huge request upsurges efficiently, yet it also allows subscribers to choose how they want to receive information. Chunghwa recognizes that services have to be tailored to suit subscribers' usage patterns with on-demand services in order to maintain a high level of customer satisfaction, and CHT-1288 is an excellent example of this.

### Success

CHT-1288 has been successfully launched and is fully operational today. There are already three service centers in operation. During the trial period, 30 customer service agents were able to handle a total of 60,000 customer calls every month. The number of inquiries is increasing everyday, and it is anticipated that Chunghwa will increase the number of staff to more than 600, and the number of inquiries will exceed 1 million every day in a year's time.

The success of CHT-1288 has attracted the public's interest and businesses are also signing up to be listed on the database.

CHT-1288 has won the Taiwan "IT-Month 2005 Award in Outstanding Information Application Product" in December, 2005.



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### Difficulty

Defining the new service and deciding on the structure and features were challenges in the initial stages. The service had to have a dynamic design structure to allow for future enhancements. As such the team spent a lot of time defining their new service.

With a strong and flexible system structure in place the team then focused on integrating the various independent modules to create a feature rich service of the future. The systems team spent one year trying to integrate the internal ICC (Integrated Content Center) system of Chunghwa Telecom just to obtain the latitude and longitude information of merchants which was basically building the interface to the LBS and GIS modules.

Next came, the brains of the system – large volumes of data – as CHT-1288 had to be data rich to be useful. The project also faced data integrity issues. Data mining was especially challenging as the team had to sift through copious amounts of information to evaluate what valuable information should be stored into the ICC. They also had to ensure all parties were comfortable with the level of information required while adhering to regulatory, legal/security and privacy standards.

Most of the problems faced were of a technical nature.