Information
Technology

Implementation of IT Solutions | 資訊科技的解決方案

Development of information system solution for Integrated Medicine for Hospitalized Patient Service in Kwong Wah Hospital

To cope with the implementation of the new Integrated Medicine for Hospitalized Patients Service in Kwong Wah Hospital, a new functional module in the existing Chinese Medicine Clinical Information System was developed, enabling Chinese medicine practitioners and Western medical doctors to record diagnosis and consultation information through tablet personal computers with wireless connections during ward visits. Relevant diagnosis, consultation and prescription information could be regularly transferred to doctors as patients' medical history and reference.

Establishment of IT server platform for outreaching dental services

To facilitate the development of TWGHs Outreaching Dental Services as a pilot project of Outreach Primary Dental Care Service Programme managed by Office of Dental Service of Department of Health, a centralized IT server platform with software and hardware configurations was installed for Tung Wah's outreaching dental service teams to record relevant examination, treatment planning and other information in November 2011. Using the application system, the platform could keep patients' dental treatment records, compile related statistics and reports and forward them electronically to Department of Health for data collection and projection.

Property Management System

Despite making enhancements over the years, the Tenant & Rental Collection Information System introduced in 1995 could no longer meet the latest business needs and users expectations. A new Property Management System has now been developed with web technology to provide user-friendly interface and enhance workflow control. The first phase of the project has not only seen more than a dozen modules in the existing system rewritten, but also catered to the users' needs. The new system was launched in early 2012.
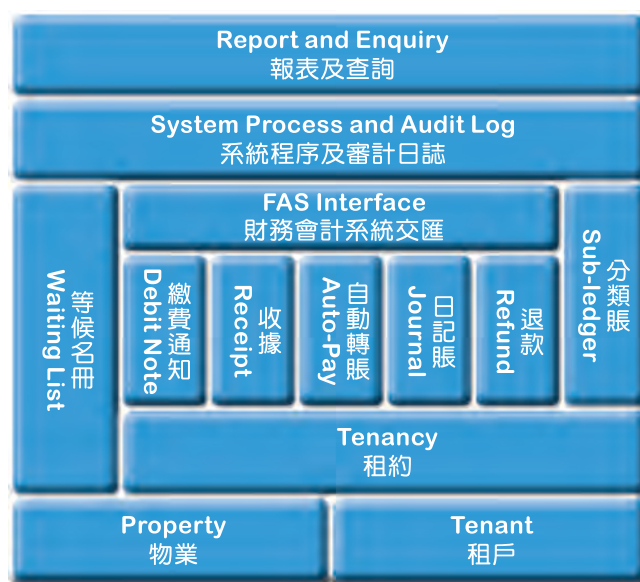
發展廣華醫院中西醫結合住院病人服務資訊方案

為優化中醫醫療資訊系統以配合廣華醫院新推出的中西醫結合住院病人服務，本院使用無線連接個人平板電腦，讓西醫及中醫師在巡房時記錄診症資訊。相關資訊和中藥處方亦能定期轉送至主診醫生作為住院病例參考和病歷紀錄。

建立牙科外展服務資訊科技伺服器平台

東華三院發展牙科外展服務，作為衞生署牙科服務辦事處管理的牙齒保健外展服務項目的試驗點。為此，本院在二〇一一年十一月完成安裝中央資訊科技伺服器平台，並設定軟件和硬件結構，讓東華三院牙科外展服務小組記錄相關檢驗、治療計劃及其他資料。使用特定的應用系統，能保留相關患者的牙齒治療紀錄，編輯統計和報表，並以電子方式傳遞至衞生署作數據彙集和服務計劃之用。

物業管理系統

於一九九五年推出的租戶系統，雖然歷經改良和提升，可是技術已無法應付新的需求。本處採用網頁技術開發新的物業管理系統，加強了流程控制和使用友善的用戶介面。第一期工程除重新編寫現有的十多個模組外，也回應了用戶的新需求，並於二〇一二年初推出使用。

| Report and Enquiry 報表及查詢 |
| System Process and Audit Log 系統程序及審計日誌 |

FAS Interface 財務會計系統交匯

等候名冊 Waiting List | 繳費通知 Debit Note | 收據 Receipt | 自動轉賬 Auto-Pay | 日記賬 Journal | 退款 Refund | 分類賬 Sub-ledger

Tenancy 租約

| Property 物業 | Tenant 租戶 |

Conceptual Diagram of Property Management System.
物業管理系統概念圖。

News Clipping Records Management System

To help the preservation clipping records of the Group, Information Technology Branch collaborated with the Corporate Communications Branch and the Records and Heritage Office for introducing a document management system. After giving thorough considerations to users' opinions and operational requirements, the new system with scanning module and flexible metadata structure was adopted in the first quarter of 2012 for the need of instant search of information and the preservation the original newspaper clips by digitalization.

Human Resources Information System

In compliance with the enactment of the Minimum Wage Ordinance, Information Technology Branch in collaboration with the Human Resources Branch developed the online and offline calculation tools for frontline supervisors to meet the legal requirements. These tools also incorporated the parameter of productivity to suit the need of calculating wages of staff with disabilities. The Human Resources Information System was amended to comply with the legal requirements of minimum level of relevant income for Mandatory Provident Fund contributions with effect from 1 November 2011.

Resetting Tung Wah website server

The services plan offered by existing web hosting provider could no longer support the ever increasing number of visitors and demands at Tung Wah website. Starting from January 2012, the Tung Wah website has been under a new and self-owned server in the data centre with independent network bandwidth. The server equipped with advanced processing capacity is capable of handling the latest Internet technology and multi-media content.
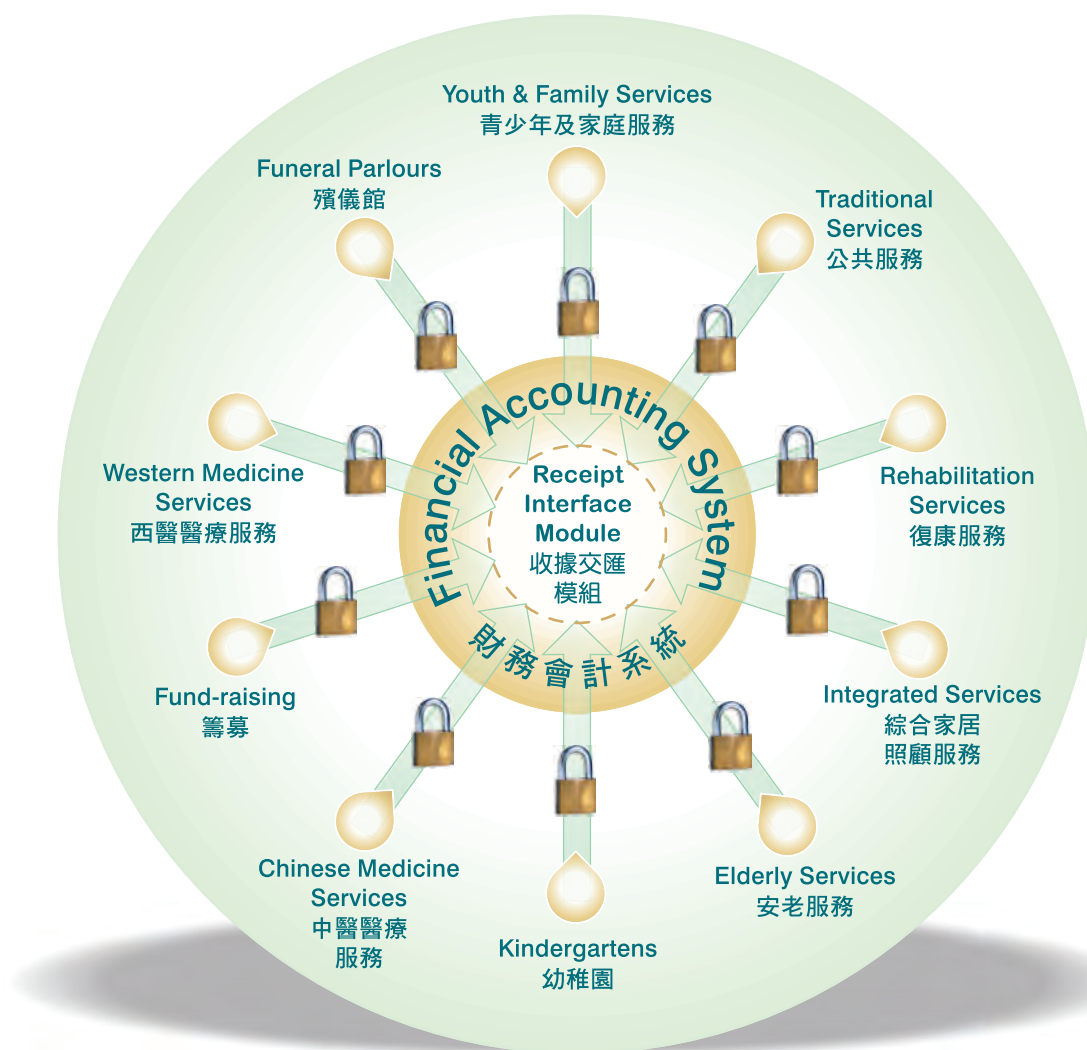
新聞剪報檔案管理系統

為協助東華三院保存剪報檔案，本處聯同企業傳訊處和檔案及歷史文化辦公室研究引入新聞剪報檔案管理方案。經詳細考慮用戶意見和運作需求，本院於二〇一二年首季購置合適的文件管理系統。新系統包括掃描模組及靈活的資料分類，不但能保存原有新聞的完整性，亦可解決保存剪報的困難和快速搜尋的需要。

人力資源系統

為配合最低工資法例的實施，本處聯同人力資源處發展了在線和離線兩套工資計算表，供前線管理人員計算最低工資的法定要求，以便於需要時彌補差額。由於本院僱有一定數量的殘疾員工，兩套計算表亦加入生產能力的參數，計算員工應得的薪酬。另外，本處的人力資源系統亦於二〇一一年十一月開始，相應調高強積金供款內最低入息水平的計算。

重置互聯網網站伺服器

由於舊有的東華三院機構網站寄存服務已使用多年，應付不了日益增加的到訪人流和需求。本處於二〇一二年一月將網站系統遷移至自置的伺服器。新的伺服器寄存於電腦數據中心，並配有獨立數據寬頻，以應付新一代的互聯網技術和豐富的多媒體內容。

Youth & Family Services
青少年及家庭服務

Funeral Parlours
殯儀館

Traditional Services
公共服務

Financial Accounting System

Receipt Interface Module
收據交匯模組

財務會計系統

Western Medicine Services
西醫醫療服務

Rehabilitation Services
復康服務

Fund-raising
籌募

Integrated Services
綜合家居照顧服務

Chinese Medicine Services
中醫醫療服務

Kindergartens
幼稚園

Elderly Services
安老服務

The Financial Accounting System enables the daily transfer of receipt data from various frontline centre systems to central Financial Accounting System for verification and booking.

財務會計系統把每天收入數據由各前台系統傳送至中央財務會計系統進行核實及入賬。

Integration of income data

The development of receipt interface module in Financial Accounting System was completed and launched in August 2011. The new module receives daily income data from various front-end application systems for transference to the central database. Data transfers from various Chinese/Western medicine systems and funeral parlour information system were completed and released in phases. Relevant transactions would then be verified by accounting officers before posting to accounting books, thus enhancing the control and analysis of income data.

Centralized Fixed Assets Registration System

Following the successful launch of the system in January 2011, the 2nd phase of the project including enhancement of data reporting and management of finance function, and improvement in response to post-implementation opinions collected from phase 1 was completed.

e-Form solution for appraisal report

Reviews have been conducted jointly with the Human Resources Branch on the operations flow and problems encountered in the initial e-Form Appraisal Report System. The e-Form was then enhanced and adopted in November 2011 with the use of the new 2-dimensional barcode format to shorten the data collection process.

收入數據的整合

財務會計系統內的收入數據模組已發展完成，並於二〇一一年八月推出。新系統透過收入數據模組，把前端應用系統的日常收入數據傳送至中央的數據庫，而包括各中、西醫醫療資訊系統及殯儀資訊系統的前台應用模組亦相繼推出。資料經會計主管核實後入賬，加強了收入彙集的控制和分析。

中央固定資產資訊系統

繼系統於二〇一一年一月成功推出後，本院於同年六月推出軟件改良和優化。開發工作加強財務科對中央資產資料庫的管理和報表分析，也回應了用家於系統推出後所反映的意見。

電子考績報告

在電子考績報告推出使用後，本處聯同人力資源處進行檢討，並找出改善方案。改善後的電子報告於二〇一一年十一月推出，採用新的二維條碼，加快數據收集流程。

Electronic direct marketing support

To support the various promotion campaigns of the Group, technical support on the HTML coding, graphical refinement and image re-sizing has been rendered to the development of electronic media contents. IT services on electronic direct marketing (eDM) through in-house e-mail system were also provided.

Enhancements of IT Systems and Infrastructure Facilities

Provision of IT services for the establishment of Tung Wah Group of Hospitals - Hong Kong Baptist University Clinical Centre for Teaching and Research in Chinese Medicine (Kowloon City)

To provide comprehensive IT services for Tung Wah Group of Hospitals - Hong Kong Baptist University Clinical Centre for Teaching and Research in Chinese Medicine (Kowloon City), an independent IT network with PC workstations was installed in December 2011 to set up TWGHs Chinese Medicine Clinical Information System for handling patients' enquiries and to support other centralized computing services for performing administrative operations.

Enhancement of Chinese Medicine Clinical Information System (CMCIS)

To meet the changing operational demands for IT services of TWGHs Chinese medicine centres, the existing CMCIS has been constantly enhanced by adding more functions and features. The enhanced CMCIS could accept the health-care payment vouchers issued by the government and facilitate the dispensing of prescribed pre-packed drugs or soup packs at the centre. In line with the long-term strategic development of IT for meeting the requirements of Chinese medicine services, planning for the revamping of the whole CMCIS was underway.

Revamping of Donation Record Information System to collect data for MIS analysis

Following consultations and reviews on various recommendations, the Donation Record Information System has been revamped with structure and functional modules added to collect required MIS data for performing analysis by the management on the profile, behaviour and activities of donors. The system was enhanced to meet the requirements and functionality for improving donor relationship management in the first quarter of 2012.

Installation of new IT network infrastructure at the Administration Headquarters

Considering the importance of information management to the Group, the IT network infrastructure installed at the Administration Headquarters was revamped in order to maintain a reliable and secured operating environment for ensuring the effective, efficient and secured information exchange and connection to informational resources, through

電郵推廣

為推廣東華三院各項活動，本處不時於各部門製作推廣電郵時提供技術支援，服務範圍包括圖像處理、網頁編寫和電郵傳遞。

優化資訊科技基礎建設架構及資訊系統

提供資訊科技服務予新成立的東華三院—香港浸會大學中醫科研中心（九龍城）

本處為東華三院—香港浸會大學中醫科研中心（九龍城）安裝獨立的資訊科技電腦網絡，提供中醫醫療資訊系統及其他中央電腦服務以支援求診者的查詢和中心的行政運作需要。本處於二〇一一年十二月已完成相關的設施和系統設定。

優化中醫醫療資訊系統

為應付中醫醫療服務運作上對資訊科技服務需求的轉變，本處在現行的中醫醫療資訊系統新增多項特點和功能，處理政府發出的醫療券，以及方便中心售賣經中醫師處方預先包裝的中藥劑或湯包。為配合資訊科技在中醫服務的長遠策略發展，本院已訂定來年重建中醫醫療資訊系統的計劃方案。

改良捐贈紀錄資訊系統以收集數據作管理信息系統分析

經過一輪諮詢、檢討和建議，本院改良捐贈紀錄資訊系統，新增結構功能模組，彙集數據以分析捐贈者的特性及取向。系統優化工程於二〇一二年第一季完成，並提升相關功能以符合加強善長關係管理的要求。

於行政總部安裝資訊科技基礎架構

按照二〇一〇／二〇一一年度計劃的實施，本處於二〇一一年十月於行政總部安裝資訊科技基礎架構，以維持可靠和安全的操作環境，確保資訊能有效、快速和安全地通過虛擬區域網絡、10Gbps主幹網絡及一系列的網絡設備進行傳送和交換。整個項目於二〇一二年三月完成。

the VLAN-zoned 10Gbps backbone network. In accordance with the implementation plan of the 2010/2011 Annual Plan, the installation of new IT network infrastructure has been implemented since October 2011 and would be completed in March 2012.

Replacement of obsolete PC workstations and IT equipment for enhancing efficiency of clinical services

To enhance work efficiency of clinical services with better IT security control, some obsolete PC workstations, printers and network equipment installed in Integrated Diagnostic Medical Centre of Kwong Wah Hospital and other Chinese medicine centres were replaced with the new ones in December 2011.

Alignment with Electronic Health Record (eHR) Sharing

In line with the government policy on the eHR sharing and in compliance with the specification and schedules developed by the eHR Office, the existing IT application and infrastructure services have been strategically developed to enhance the readiness of the eHR development for ensuring data interoperability. To establish eHR standards for Chinese medicine clinics, Information Technology Branch and Medical Division have joined the various domain groups of "Participant Master Index and Provider Registry", "Chinese Medicine Clinical Terminology" and "Chinese Medicine Pharmacy Terminology" organized by the Chinese Medicine Department of the Hospital Authority (HACMD). A study was also conducted in collaboration with HACMD to explore the feasibility for the development of a common data standard to prepare for interoperability of data sharing in compliance with the eHR standards in Chinese medicine.

Enhancement of Elderly Homes One-stop Management Information System for computerization of operations

Capitalizing on the successful system implementation experience at the TWGHs Shuen Wan Complex for the Elderly, and gearing up for computerized operations of all other elderly homes, especially with regard to elderly residents' clientele, medical appointment & consultation, accident & incident and medication record management, the existing centralized Elderly Homes One-stop Management Electronic System (EHOMES) would be extended to the Group's other elderly homes by the first quarter of 2013. Phase IV development of EHOMES with the aim of strengthening medication application safety has also been conducted. In 2011/2012, 14 elderly homes have been using the system for daily operations.

Installation of new network equipment for the Revamping of the IT Infrastructure at the Administration Headquarters.
為配合重整行政總部資訊科技基礎架構而安裝的電腦網絡設施。

更換過時的個人電腦及資訊科技設備以提高醫療服務效率

廣華醫院綜合診斷醫療中心及東華三院中醫服務部已更換全新的個人電腦、打印機和網絡設備,以提高服務的工作效率和加強資訊保安控制。更換工程已於二○一一年十二月完成。

配合電子健康紀錄互通政策

為配合政府推出的電子健康紀錄互通系統及按照電子健康紀錄統籌處的規劃,本院發展目前的資訊科技應用和基礎架構服務,為數據互通作好準備。為訂定中醫電子健康紀錄標準,資訊科技處和醫務科應醫院管理局中醫部的邀請,成為「參與者總索引及服務提供者名冊」、「中醫臨床術語」和「中藥房術語」等專案小組的成員。另外,聯同醫院管理局中醫部合作研究發展一套共同數據標準,探索達致未來的電子健康紀錄互通(中藥)標準要求的可行性。

優化安老院舍管理系統作全面電腦化操作

為推進本院船灣安老綜合中心的成功經驗和模式及發展東華三院安老院舍日常操作電腦化,以便更好地管理有關住客、醫療預約、諮詢、事故及醫療紀錄等資料,本院於二○一三年第一季把現有的安老院舍管理系統全面推廣至東華三院轄下的其他安老院舍採用。以加強藥物安全應用為目標的第四期工程亦已展開。在二○一一／二○一二年度,本院共有十四間安老院舍採用本系統來處理日常運作。

IT Governance

│ 資訊科技的管治

Review on Disaster Recovery Strategy for application systems

Considering information technology being an integral part of daily operations of the Group, the cold site disaster recovery approach was no longer suitable and a study on the IT disaster recovery approach has been conducted by the Branch to evaluate the disaster tolerance of IT systems. Based on the result of the study and taking into account of the impact of critical application systems on services delivery to the public, the new disaster recovery strategy would be upgraded to adopt the warm site disaster recovery approach for meeting the requirements of those mission-critical application systems related to medical services, elderly services and rental collection services.

Review on workflow and procedures for providing technical support and help desk services for users

In view of the growing demand for technical support and help desk services from the Administration Headquarters, schools and service centres, a review was conducted in the second quarter of 2011 with a view to refining and streamlining the workflow and procedures of service requests so as to better serve the users.

檢討應用系統危機應變策略

鑑於資訊科技已成為支援東華三院日常運作的重要一環,現時危機應變的冷點災難復元方案已不再適用,資訊科技處已完成研究資訊系統在處於危機時的容忍度。根據研究結果及考慮到醫療、安老院舍和租務等相關的應用系統對公眾服務的影響,本院已計劃將這等系統提升至採用危機應變暖站點方案。

檢討技術支援和諮詢服務申請流程

面對行政總部、學校和服務單位對技術支援和諮詢服務需求的增長,資訊科技處於二〇一一年第二季進行技術支援和諮詢服務的申請程序及工作流程檢討,以便簡化流程,更好地為使用者提供服務。

System Support Services Provided for Various Divisions/Branches in the Year 2011/2012
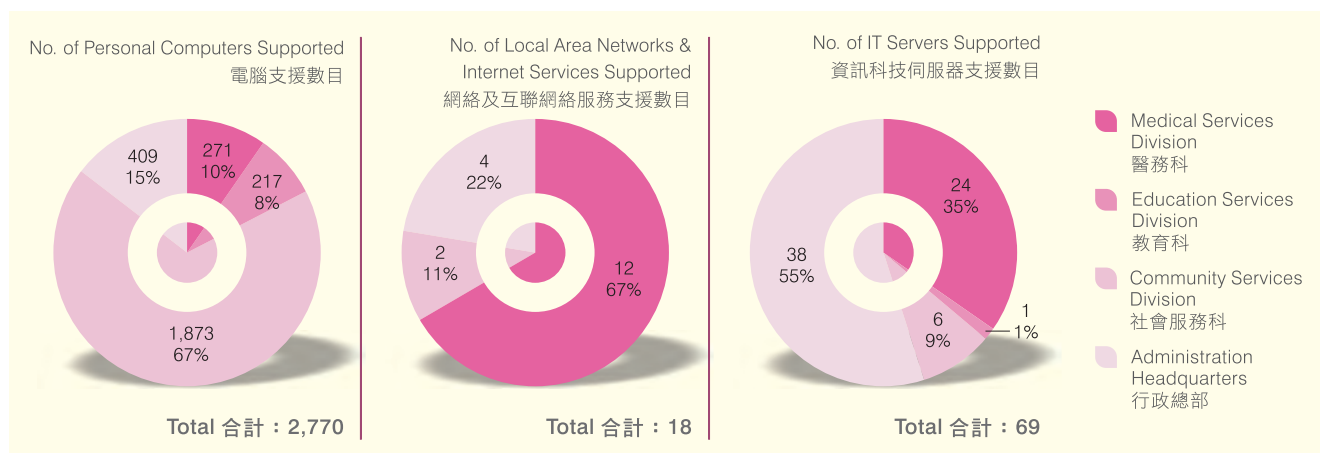## 二〇一一／二〇一二年度為各部門提供的系統支援服務

	Medical Services 醫務科	Education Services 教育科	Community Services 社會服務科	Administration Headquarters 行政總部
Number of Personal Computers Supported 電腦支援數目	271	217	1,873	409
Number of IT Servers Supported 資訊科技伺服器支援數目	24	1	6	38
Number of Local Area Networks & Internet Services Supported 網絡及互聯網絡服務支援數目	12	-	2	4

All IT computers and networks installed at the primary & secondary schools and CUTW for teaching purpose are excluded
不包括置於中小學及社區書院教學用途的電腦及網絡
The network and Internet services which are not directly administered by IT Branch has been excluded
不包括部分非資訊科技處管理的網絡及互聯網絡服務

No. of Personal Computers Supported
電腦支援數目

409 15%　271 10%　217 8%
1,873 67%

Total 合計：2,770

No. of Local Area Networks & Internet Services Supported
網絡及互聯網絡服務支援數目

4 22%　2 11%　12 67%

Total 合計：18

No. of IT Servers Supported
資訊科技伺服器支援數目

24 35%　38 55%　6 9%　1 1%

Total 合計：69

Medical Services Division
醫務科

Education Services Division
教育科

Community Services Division
社會服務科

Administration Headquarters
行政總部

Usage of Application Systems and Internet Websites in the Year 2011/2012
二〇一一／二〇一二年度應用系統及互聯網使用

	Medical Division & Related Service Centres 醫務科及相關服務單位	Education Division & Related Service Centres 教育科及相關服務單位	Community Services Division & Related Service Centres 社會服務科及相關服務單位	Other Internal Divisions/ Branches 其他科/處	Services for the Public 公眾服務
Human Resource Information System 人力資源系統	●	●	●	●	
Property Management System 物業管理系統				●	●
Financial Accounting Information System 財務會計系統	●	●	●	●	
Staff Leave Information System 員工休假系統	●	●	●	●	
Employer Tax Return & Autopay System 僱主稅務申報及自動轉賬系統				●	
Coffin Home Information System 義莊資訊系統				●	
Guest List Information System 嘉賓名單資訊系統				●	
Chinese Medicine Clinical Information System 中醫醫療資訊系統	●				●
School Accounting Information System 校本會計系統		●			
Funeral Parlour Information System 殯儀資訊系統			●		●
Tung Wah Museum Information System 東華文物館資訊系統				●	●
Integrated Diagnostic & Medical Centre Information System 東華三院綜合診斷及醫療中心資訊系統	●				●
Well Women Clinic Information System 女士健康普查醫療資訊系統	●				●
Donation Record Information System 捐贈紀錄資訊系統				●	
Tung Wah Board of Directors' Information System 東華董事局資訊系統				●	
Centralized Fixed Asset Registration Information System 中央固定資產資訊系統	●	●	●	●	
Geriatric Dental Clinical Information System 長者牙齒保健資訊系統	●				●
Famous & Prominent Doctors in Traditional Chinese Medicine in China Internet Portal 中國中醫名院名科名醫信息服務網	●				●
TWGHs Corporate Website 東華三院機構網站					●
TWGHs Corporate Intranet System 東華三院內聯網	●	●	●	●	
Elderly Home One-stop Management Information System 安老院舍管理系統			●		●
Computerized Tomography Imaging Centre Information System 電腦掃描中心資訊系統	●				●
Smart Queuing System for Chinese Medicine General Outpatient Clinic 中醫普通科門診自助登記系統	●				●
e-Leave System 東華三院網上假期系統	●	●	●	●	
TWGHs Corporate E-mail System 東華三院企業電子郵件系統	●	●	●	●	●
TWGHs Haemodialysis Centre Information System 東華三院血液透析中心管理系統	●				●
Self-service Attendance Registration with Octopus Payment System for Chinese Medicine Specialist Outpatient Clinic 中醫專科門診自助登記及八達通收費系統	●				●
TWGHs e-Appraisal System 東華三院電子考績報告系統	●	●	●	●	
Chinese Medicine Mobile Clinic Information System 中醫流動車門診服務系統	●				●
Dental Clinic Outreach Management System 牙齒保健外展服務管理系統	●				●
Electronic Procurement System 電子採購系統	●	●	●	●	
iPortal 內聯網入門網站	●	●	●	●	
News Clipping Records Management System 新聞剪報檔案管理系統				●	

IT System Operation and Support Services in the Year of 2011/2012
二〇一一／二〇一二年度資訊科技服務及系統支援服務工作

- 0.60%
- 9.79%
- 6.37%
- 13.43%
- 23.52%
- 27.29%
- 19.01%

- IT Procurement Support Services 資訊產品採購支援服務
- IT Evaluation & Research Services 資訊科技產品估價及研究服務
- Network Support Services 電腦網絡支援服務
- System Management Services 系統管理服務
- System Administration & Control Services 系統技術監控及協調服務
- System Operation Services 系統操作服務
- IT Support Services 資訊科技支援服務

Operation Statistics of Information Technology Branch
資訊科技處的運作統計資料

Number of cases requesting IT hotline support per annum: 全年處理熱線求助宗數	977
Number of cases requesting IT onsite support per annum: 全年實地支援求助宗數	264
Number of e-mails daily processed through the Branch: 平均每日經資訊科技處處理的電郵宗數	11,211
Number of spam mails and viruses daily filtered through the Branch: 平均每日經資訊科技處過濾的垃圾郵件及電腦病毒宗數	2,538
Average percentage in system availability per annum: 全年平均系統可用性百份比	99.99%