Centralized Operation and Maintenance for Distributed Digital Switching Systems

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ABSTRACT

Traditional maintenance of digital switching systems requires on-site works. It is time-consuming and needs lots of labors. The development of computer networks produces no gap for information exchange. This thesis proposes a new method for centralized maintenance of digital switching systems using existing network structure of Chunghwa Telecom (CHT). By building the Telnet Function under TCP/IP of CHT Intranet, client can access the local server whenever a terminal is available. Thus, maintenance can be performed remotely. Besides the maintenance of digital switching system, voice, data exchange and power control can also be integrated into the system. The simulation results will demonstrate that the method proposed in this thesis will offer low-cost and efficient operations.

Keywords : 數位交換機 ; 主從架構 ; 集中維運 ; Internet ; TCP/IP

Table of Contents

REFERENCES

[1] Paul Ferrill, “ Thin – Client/Server Solution Eases Administration ” , Federal Computer Week ,vol.12, Iss. 41, pp. 25-26, Dec 1998.

[2] A. K. Parekh and R. G. Gallager, “ A Generalized Processor Sharing Approach to Flow Control in Integrated Services Networks: The Single Node Case ” ,IEEE/ACM Trans. Networking, vol.1,no.3,pp.344-357,Jun.1993.

[3] Xiong-Jian Liang, “ Network Planning Methodology and Practice in China ” ,IEEE Commun.Mag. pp.34-37,July 1993.

[4] S. Golestani, “ A Framing Strategy for Congestion Management ” ,IEEE J.Select. Areas Commun. , vol.9, no.7, pp.1064-1076,Sept.1991.

[5] Alicia Costanza, “ On the Future of Thin Client/Server Computing ” ,ENT Fort Washington, vol.3, Iss.19,pp.3, Nov. 1998.

[6] Anandarajan Murugan, “ Matching Client/Server Processing Architectures with Information Processing Requirements: A Contingency Study ” ,Information & Management, Amsterdam ,vol.34, Iss.5, Nov. 1998.

[7] C.A.Polyzois, K.H.Purdy, P.F.Yang, et. al. “ From POTS to PANS: A Commentary on the Evolution to Internet Telephony ” ,IEEE Internet Computing,pp.83-91,May 1999.

[8] ITU-T, “ Intelligent Network Distributed Functional Plan Architecture ” ,Q.1204, Mar. 1993.

[9] Maurizio Dell Abate,Martino DE Marco,Vittorio Trecordi, “ Performance Evaluation of Mobile IP Protocols in a Wireless Environment ”,1998 IEEE International Conference,vol.3,pp.1810-1816,1998.
[10] David Chappell, “ Understanding ActiveX and OLE ”, Microsoft Press,1996.
[11] Uyless Black,Bell, “ ComputerNetworks – Protocols , Standards , and Interfaces ”, Prentice – Hall International , PP.265-269, 1993.
[12] Alcatel , “ CUSTOMER DOCUMENTATION GUIDE – MPTMON USER MANUAL ”, VOL.1-1, BOOK 01 ,PP.5-9, JAN . 1992.
[13] Alcatel , “ SYSTEM DESCRIPTION MANUAL ”, VOL 4-3 BOOK 11 , AUG . 1995 .
[14] Lucent Technologies , “ 5ESS-2000 Switch International Online Documentation System ”,Viewer Software Release 2.6 ,Jan 1998 .
[15] Catalyst , “ Socket Wrench Custom Control – user ’ s Guide and Technical Reference ”,Ver 2.2 ,1999 .
[16] Sheridan , “ Active Thread Plus – Eleven ActiveX Controls Bring Greater Creativety to Your Applications ”,Ver 3.02 ,Mar 2000 .
[17] Sheridan , “ Active ToolBars Plus - 32-bit ActiveX Controls for the Look and Feel of Microsoft Office 2000 ”,Ver 2.03 , June 2000 .
[18] Dart Communication , “ Power TCP ,the new standard for Internet Application Development Tools ”,1999 .
[19] Agendum Software , “ AgFastForm for Visual Basic V6 ”,Ver 3.6,May 1999 .
[20] Visionary Business Systems , “ MAX*IP User Guide ”, 1999 .
[21] Kessler , G . , and S . Shepard , “ A Primer on Internet and TCP /IP Tools ”, RFC 2151 , June 1997 .
[22] Microsoft Corp . , “ Windows NT Server Networking Guide ”, Microsoft Press , 1996 .
[23] Horning , Charles , “ A Standard for the Transmission of IP Datagrams over Ethernet Networks ”, RFC 894 , April 1984 .
[24] Postel , J. , and J. Reynolds , “ A Standard for the Transmission of IP Datagrams over IEEE 802 Networks ”, RFC 1042 , Feb. 1988 .
[25] Postel , J. , “ Internet Protocol ”, RFC 791 , Sept. 1981 .
[26] Steinke , Steve , “ IP Addresses and Subnet Masks ”, LAN Magazine , pp. 27-28 , Oct. 1995 .
[27] Socolofsky , T.,et al. ‘ A TCP /IP Tutorial ”, RFC 1180 , Jan. 1991 .
[28] Hume , Sharon , “ A Technical Tour of OSPF ”, 3TECH , The 3Com Technical Journal, pp.44-56 , Summer 1991.
[29] Egevang , K. , and P. Francis , “ The IP Network Address Translator (NAT) ”, RFC 1631 , May 1994 .
[30] Dutcher , William , “ IP Addressing – Playing the Numbers ”, Data Communications ,pp. 69-74, March 1997.
[31] Black , Uyless , “ TCP / IP and Related Protocols ”, second edition , McGraw-Hill , 1995 .
[32] Comer , Douglas E., “ Internetworking with TCP / IP ”, Prentice Hall , 1995 .
[33] Partridge , Craig , “ Improving Your TCP : Look at the Timers ”, ConneXions , pp.13-14, July 1987.
[34] John D Ruley , ” Take Shock of Telnet ”,Windows Magazine,Manhasset,vol.8,Iss.4,pp.257-258,Apr.1997.
[35] C7604 會員進修教材，“ 數位交換機系統 ”，台灣電信工會，民國77年1月。
[36] 11-2會員進修教材，“ 數位電話學 ”，台灣電信工會，第210-217頁，民國74年5月，。