

Comparison of programming

This is a Nortel Opt 81C PBX. It was programmed from the command line using various overlays which prompted you to fill in values. You literally had to know what almost every value meant although there was some sanity checking if you entered an incorrect value.

Later on, Nortel introduced their “Optivity Telephone Manager” which was a Windows server running their proprietary GUI application. In some ways it automated changing some things but a good technician skilled at the command line could provision just as quickly and there were things OTM could not provision.

The Nortel phones were “dumb” phones in that they had just enough operating system to communicate with the PBX via time domain multiplexing (TDM) over a 64 kb digital pair and the PBX provided all of the intelligence to make them work.

Even their IP based unistim phones used this model and all of the features were provided by the PBX.

You also had to license each port, whether it was TDM or IP much like the CAL license model used by Microsoft for their server operating systems.

In other words, you could buy used hardware like circuit cards and telephones from secondary markets but in order to use them, you had to buy a software license from Nortel to enable the software to communicate with them.

The TDM circuit switched equipment was organized into loops which were 2.048 mb circuits like European E1 circuits. Each loop fed up to two shelves which held up to 16 cards for phones or trunks. Each card supported either 16 digital phones, 16 analog phones, or 8 universal analog trunks.

There were also T1 cards that supported either two T1 circuits that could be configured as 24 channels or 23 B + D ISDN channels. These were used to connect to the PSTN via PRI DID trunks or to other switches as PRI tie trunks.

This is the programming for one phone. This was actually my office phone for many years. It was an NT3903 which was the TDM version of their IP based i2002 and i2004 phones.

Imagine having to do this for nearly 10,000 phones and hundreds of trunks! That is what I did for over 20 years for one company.

Asterisk and SIP have made the job much more fun and provides hundreds of features that the proprietary PBX vendors hadn't even thought about. Also, if Asterisk doesn't have a feature you need, a programmer can write an application to provide it.

DES SWROOM
TN 052 0 05 15 ; TN is the Terminal Number. Similar to an IP, it defines the loop,
TYPE 3903 ; shelf, card number, and port to which the phone was connected.
CDEN 8D
CTYP XDLC
CUST 0
FDN 5500
TGAR 0
LDN NO
NCOS 4
SGRP 0
RNPG 131
SCI 0
SSU 0100
LNRS 12
XLST
SCPW 6666
CLS UNR FBD WTA LPR PUA MTA FNA HTA TDD HFA GRLA CRPD STSA
MWA RMMD SMWD AAD IMD XHD IRA NID OLA VCE DRG1
POD DSX VMD CMSD SLKD CCSD SWD LNA CNDA
CFTD SFD DDV CNID CDCA MSID DAPA BFED RCBD
ICDD CDMD MCTA CLBD AUTU
GPUD DPUD DNDA CFXA ARHA FITA CLTA ASCD
CPFA CPTA ABDD CFHD FICD NAID BUZZ AGRD MOAD AHD
DDGA NAMA
USRD ULAD RTDD RBDD RBHD PGND OCBF FLXD FTTU MCBN
CPND_LANG ENG
RCO 0
HUNT 5500
LHK 1
LPK 3
PLEV 02
AST
IAPG 0
AACS NO
ITNA NO
DGRP
MLNG ENG
DNDR 0
KEY 00 SCR 3999 1 MARP
CPND
NAME George Cohn
XPLN 13
DISPLAY_FMT FIRST, LAST
VMB
VMB_COS 0

SECOND_DN 5399
THIRD_DN
VMB_STATE CONFIGURED
01 SCR 5399 1 MARP
CPND
NAME George Cohn
XPLN 13
DISPLAY_FMT FIRST, LAST
02 SCR 5247 1
CPND
NAME Switchroom
XPLN 13
DISPLAY_FMT FIRST, LAST
VMB
VMB_COS 2
SECOND_DN 6301
THIRD_DN
VMB_STATE CONFIGURED
03 SCR 6301 D
CPND
NAME George Cohn
XPLN 27
DISPLAY_FMT FIRST, LAST
04
05
06
07
08
09
10
11
12
13
14
15
16 MWK 5500
17 TRN
18 AO6
19 CFW 16 8421101
20 RGA
21 PRK
22 RNP
23 SCU 0130
24 PRS
25 CHG
26 CPN

27 CLT

28 RLT

29

30

31

DATE 1 JUN 2006