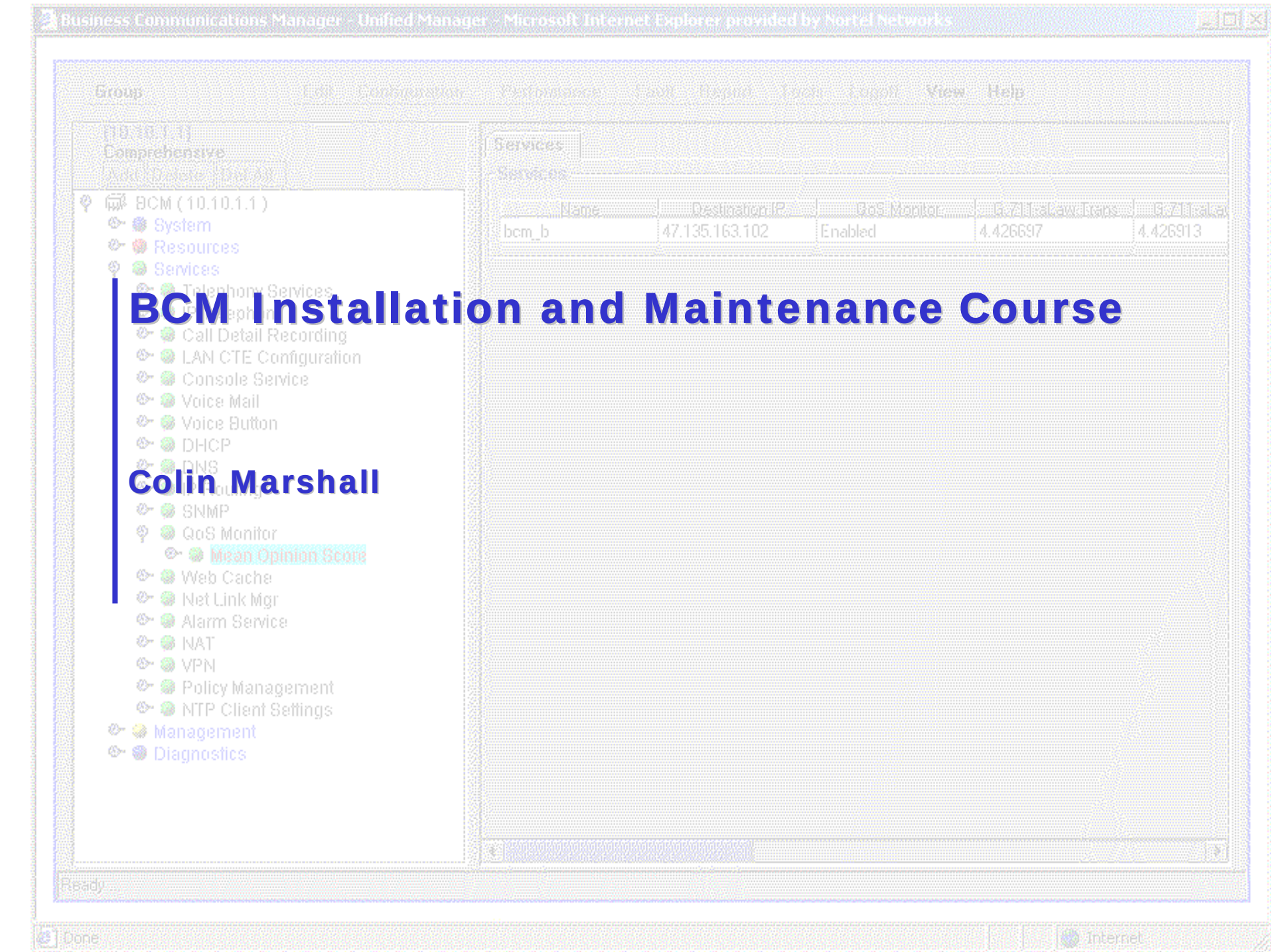

BCM Installation and Maintenance Course

Colin Marshall

Day 1

- BCM CCU overview
- DS 30 Resources
- Media Bay Modules
- Installing media bay modules
- Installing BCM in to a rack
- Logging into BCM system (default parameters)
- Configuring media bay modules in unified manager
- Setting up new users
- Replacement procedures
- Exercise 1

Day 2

- Entering key codes
- Configuring MSC resources
- Configuring basic rate lines (ISDN2e)
- Configuring primary rate lines (ISDN 30e DASS2)
- Basic call routing
- Programming target lines
- Installing and programming key system extensions
- Installing and configuring IP phones
- Installing and configuring ATA2
- Exercise 2

Day 3

- Hunt groups
- Scheduled Services
- Restriction Filters
- Installing Call pilot
- Adding mailboxes
- Overview call pilot (CCR AA)
- Call pilot system settings
- Call pilot restart and reset
- Exercise 3

Day 4

- System backup
- System restore
- System setup using wizards
- System Install

Day 1

- BCM CCU overview
- DS 30 Resources
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- Installing media bay modules
- Installing BCM in to a rack
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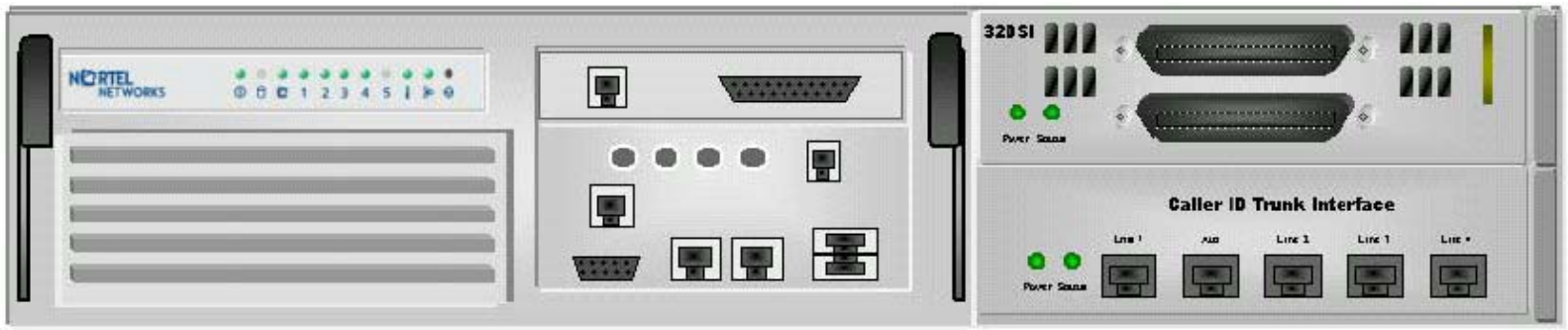
- Exercise 1

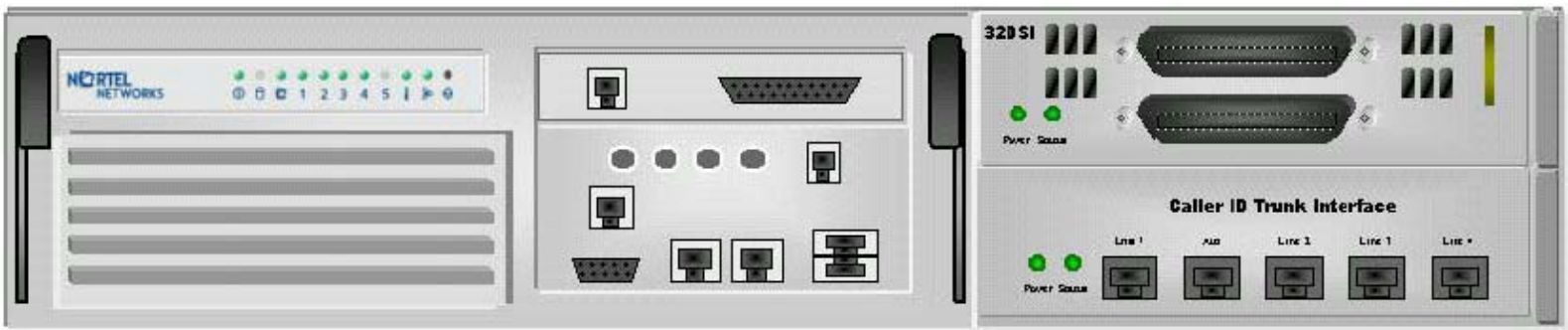
BCM 200 400 CCU

The BCM



BCM 200 CCU

- 1x MBM back plan with 2 MBM capacity
- CPU Celeron 850MHZ
- Support for redundant hard drive and fan (no redundant power supply)
- MSC card will come with 2 MSPEC slots and 1 MSPEC 4 no expansion module support
- 256mb (SD RAM)
- 20GB hard drive
- Support for wan card



BCM 400 CCU

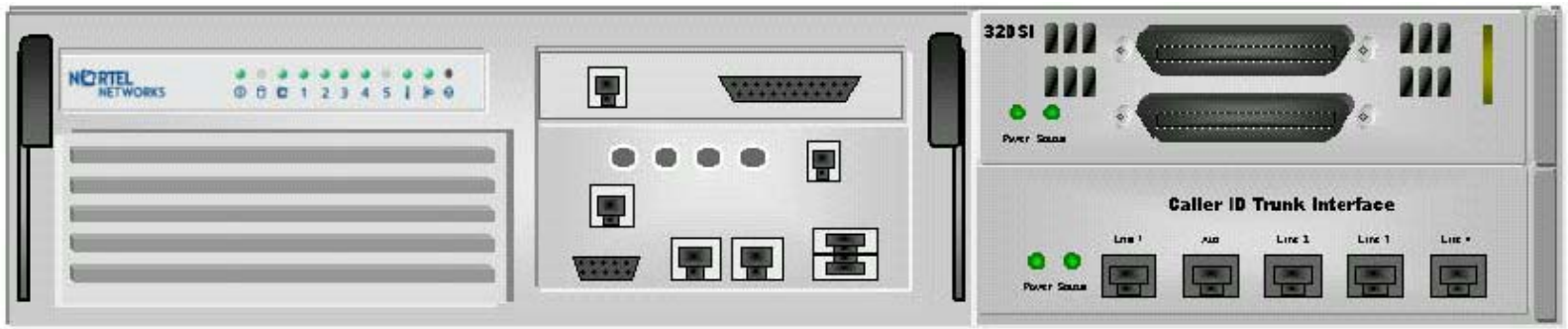
- Intel P3 700MHZ
- 2X MBM back planes each with 2 MBM capacity for a total of 4 MBM's
- Supports Redundant power supply and redundant hard drive
- Supports BCM expansion chassis
- 256mb (SD RAM)
- 20GB hard drive
- Supports 4 MSPEC cards comes installed with 2 MSPEC
- Support for wan card

BCM Components

- Call pilot (32 ports up to 1000 mailboxes 250 hrs storage)
- Call center basic (2 ACD queues 10 agents)
- Call center professional (50 ACD queues 80 agents)
- DECT (8 Base stations 32 handsets)
- Networking (IP DPNSS QSIG)
- WAN (Router NAT OSPF RIP Integral Firewall SNMP etc)
- IMAP Integration with various Mail clients using unified messaging (100 seats upgradeable)
- CTI Integration (100 users upgradeable)
- IVR

BCM 200 400 CCU resources

BCM Resources



BCM Limitations

The BCM allocates the resources depending on what media bay modules are installed. The system applications also use the resources on the BCM. This depends on how many ports are being used on a variety of different applications.(voice mail,wan ,IP trunks or phones)

The BCM configuration tool can be used as guide lines as to what cards can be installed and how many of each card can be used. You will find this in the folder BCM tools on the disc I have supplied.

The BCM can have a maximum of 6 DS 30 buses on a default system. Each media bay module will require a certain percentage of a DS30 bus. The type of media bay module will determine how many extensions or lines can be installed on the BCM system.

The BCM also requires a slot for the card to be installed. The BCM 200 is limited to 2 slots and will never use more than the allocated DS 30 Resources. Put simply if the BCM has 2 media modules installed it will only every take 2 DS 30 buses

What is a DS30 Bus?

A DS30 bus is a block of virtual pathways on the media services card (MSC).

On a default system, six buses of DS30 channel blocks can be assigned to media bay modules.

Which block the module is assigned to determines the range of line (trunk) numbers or extension numbers (DNs) that can be allocated by the module to the equipment connected to that module.

The other two blocks are permanently routed to the PEC digital signal processors (DSPs) to support internal Business Communications Manager functions such as voice mail, VoIP trunks, IVR, and IP telephony functions. This configuration is called a 2/6 channel split.

What is a DS30 Bus?

You can change the DS30 allocation to a 3/5 split to accommodate increased IP telephony or VOIP trunk requirements. You do this by assigning bus 7 to the voice data sector. This choice should be made at system startup, but a default system can be changed through the Unified Manager to a 3/5 split after startup if IP requirements increase.

Warning: If you change the channel split from 3/5 to 2/6 after your system is configured,
you will lose all the data and optional application connections

DS 30 BUS Layout

DS 30 2/6 Split

BUS 1	BUS 2	BUS 3	BUS 4	BUS 5	BUS 6	BUS 7	BUS 8
System **MSC**	MBM **DSM 32**	MBM	MBM	MBM	MBM	MBM **DTM**	System **MSC**

DS 30 3/5 Split

BUS 1	BUS 2	BUS 3	BUS 4	BUS 5	BUS 6	BUS 7	BUS 8
System **MSC**	MBM **DSM 32**	MBM	MBM	MBM	MBM **DTM**	System **MSC**	System **MSC**

The 2/6 split lets you utilize 6 of the 8 DS30 buses for media bay modules.

The 3/5 split lets you utilize 5 of the 8 DS 30 buses for media bay modules. The 3/5 split is used in an environment that uses a lot of IP devices

The Modules

The Media Bay Modules

DSM 16+

The DSM 16 supports 16 Nortel handsets. It requires ½ a DS30 bus to function and 1 bay on the BCM CCU.

It supports both the M series handsets and the new T series Handsets.

DSM 32+

The DSM 32 supports 32 Nortel handsets. It requires 1 DS30 bus to function and 1 bay on the BCM CCU.

It supports both the M series handsets and the new T series Handsets.

BRIM

The BRIM module supports 4 ISDN2e circuits or 8 channels.

Each circuit can be configured as an S0 bus or a T bus.

The BRIM module requires 1 bay and takes up 1/3 of a DS30 bus.

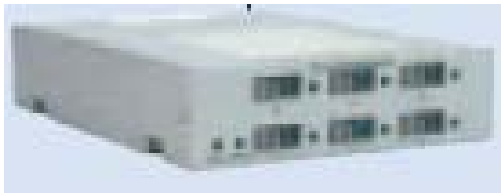
DTM

The DTM module supports ISDN 30e DASS2 QSIG MCDN and DPNSS.

The DPNSS and MCDN require a Key code for DTM module to Function.

The DTM module requires 1 bay and 1 DS30 Bus.

FEM



The FEM module supports 6 Norstar modules.

The FEM requires 1 bay and Takes 1 DS30 bus per Norstar Module.

So in theory you could use all Of the DS 30 buses on one Card.

DECT

The DECT module supports 8 base stations and 32 handsets.

The DECT base stations provide 4 speech channels.

The DECT base station requires 1 bay and 1 DS30 bus.

There can only be 1 DECT module BCM in a BCM 200 or 400.

DSM 16+ DSM 32+

Bus	Switch Settings						DN Assignment
	1	2	3	4	5	6	
2	off	on	on	on	on	on	221-236
	off	on	off	on	on	on	237-252
3	off	on	on	on	on	off	253-268
	off	on	off	on	on	off	269-284
4	off	on	on	on	off	on	285-300
	off	on	off	on	off	on	301-316
5	off	on	on	on	off	off	317-332
	off	on	off	on	off	off	333-348
6	off	on	on	off	on	on	349-364
	off	on	off	off	on	on	365-380
7	off	on	on	off	on	off	381-396
	off	on	off	off	on	off	397-412

Switches 1-3 represent the offset and switches 4-6 determine what bus the module uses.

The principals are the same regardless of what module is installed.

Bus	Switch Settings						DN Assignment
	1	2	3	4	5	6	
2	off	on	on	on	on	on	221-236
							237-252
3	off	on	on	on	on	off	253-268
							269-284
4	off	on	on	on	off	on	285-300
							301-316
5	off	on	on	on	off	off	317-332
							333-348
6	off	on	on	off	on	on	349-364
							365-380
7	off	on	on	off	on	off	381-396
							397-412

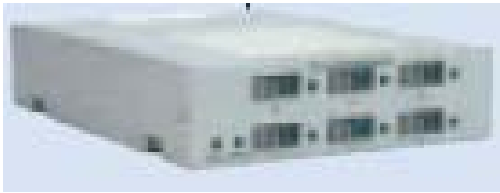
BRIM

BUS	Switch Settings							Line Assignment
	off set	1	2	3	4	5	6	
2	0	on	on	on	on	on	on	211-218
	1	on	on	off	on	on	on	219-226
	2	on	off	on	on	on	on	227-234
3	0	on	on	on	on	on	off	181-188
	1	on	on	off	on	on	off	189-196
	2	on	off	on	on	on	off	197-204
4	0	on	on	on	on	off	on	151-158
	1	on	on	off	on	off	on	159-166
	2	on	off	on	on	off	on	167-174
5	0	on	on	on	on	off	off	121-128
	1	on	on	off	on	off	off	129-136
	2	on	off	on	on	off	off	137-144
6	0	on	on	on	off	on	on	91-98
	1	on	on	off	off	on	on	99-106
	2	on	off	on	off	on	on	107-114
7	0	on	on	on	off	on	off	61-68
	1	on	on	off	off	on	off	69-76
	2	on	off	on	off	on	off	77-84

DTM

Bus	Switch Settings						Line Assignment
	1	2	3	4	5	6	
2	on	on	on	on	on	on	211-240
3	on	on	on	on	on	off	181-210
4	on	on	on	on	off	on	151-180
5	on	on	on	on	off	off	121-150
6	on	on	on	off	on	on	91-120
7	on	on	on	off	on	off	61-90

FEM



BUS	Switch Settings						FEM Port
	1	2	3	4	5	6	
2	on						1
3		on					2
4			on				3
5				on			4
6					on		5
7						on	6

DECT

BUS	Switch Settings						DN Assignment
	1	2	3	4	5	6	
2							
3							
4							
5							
6	on	on	on	off	on	on	597-624
7	on	on	on	off	on	off	597-624

DS 30 BUS Layout

DS 30 2/6 Split

BUS 1	BUS 2	BUS 3	BUS 4	BUS 5	BUS 6	BUS 7	BUS 8
System **MSC**	MBM **DSM 32**	MBM	MBM	MBM	MBM	MBM **DTM**	System **MSC**

DS 30 3/5 Split

BUS 1	BUS 2	BUS 3	BUS 4	BUS 5	BUS 6	BUS 7	BUS 8
System **MSC**	MBM **DSM 32**	MBM	MBM	MBM	MBM **DTM**	System **MSC**	System **MSC**

DSM 32+ Installed on Bus 2 (Dip Switch settings off on on on on on on)

DTM Installed on Bus 7 (Dip Switch settings on on on off on off)

DTM Installed on Bus 6 (Dip Switch settings on on on off on on)

Installing A Media Bay Module

The media bay module dip switch settings have to be set correctly for the system to allocate the range of extensions or lines that you require.

You must set the dip switches and then install the media bay module. The system must be shut down to install a module. If you install a module when the system is on. The module could be damaged and all your other modules will restart. It is worth double checking your switch settings.

After you have powered down your system and installed your module. You must then tell the system what type of module is installed on each bus.

But first we need to know how to log on to the system?

Unified manager

Unified Manager Requirements

What do I need to log on to BCM?

Computer Requirements

- A computer with a Pentium 133mhz processor or higher
- 64mb Ram
- A minimum of 10mb hard drive space

Web Browser Requirements

- Internet explorer version 5.1 or above(Netscape equivalent)
- Java virtual Machine Installed
- Sun Java applet version 1.4.1_02 or above

Note

If you use Netscape communicator you will not be able to schedule or backup BCM using BRU

BCM CCU 200 or 400

BCM 200 CCU

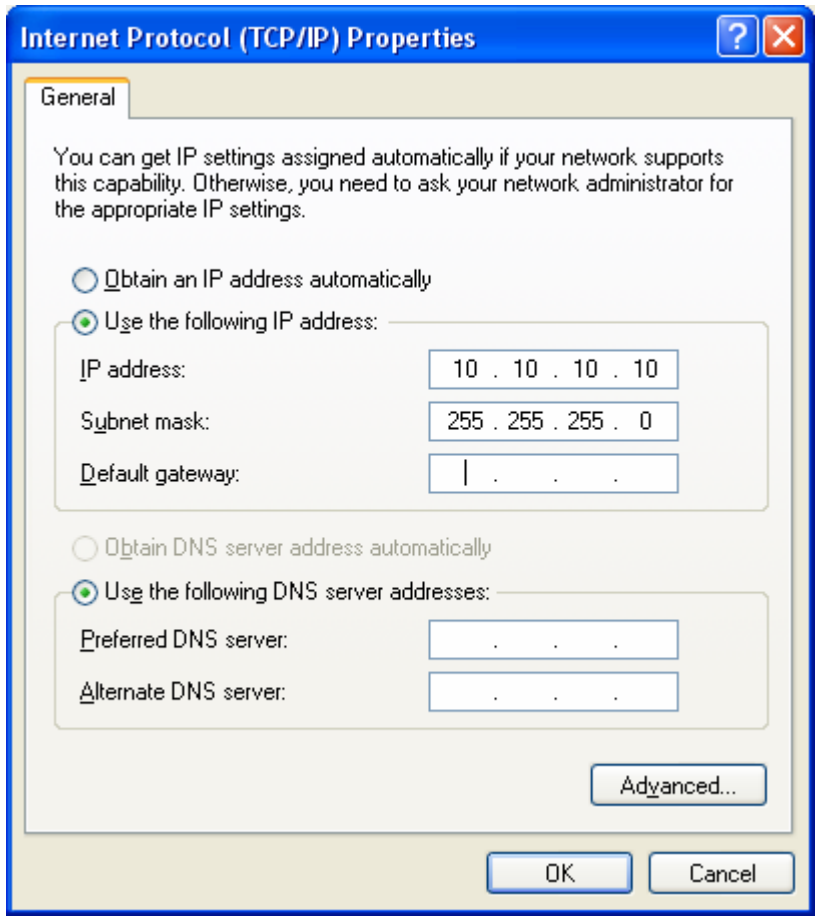
- Lan 1 10.10.10.1
- Lan 2 10.10.11.1
- Wan 1 10.10.12.1
- Wan 2 10.10.13.1
- Default Password to logon to system. Username **ee_admin** password **PlsChgMe!**

BCM 400 CCU

- Lan 1 10.10.10.1
- Lan 2 10.10.11.1
- Wan 1 10.10.12.1
- Wan 2 10.10.13.1
- Default Password to logon to system. Username **ee_admin** password **PlsChgMe!**

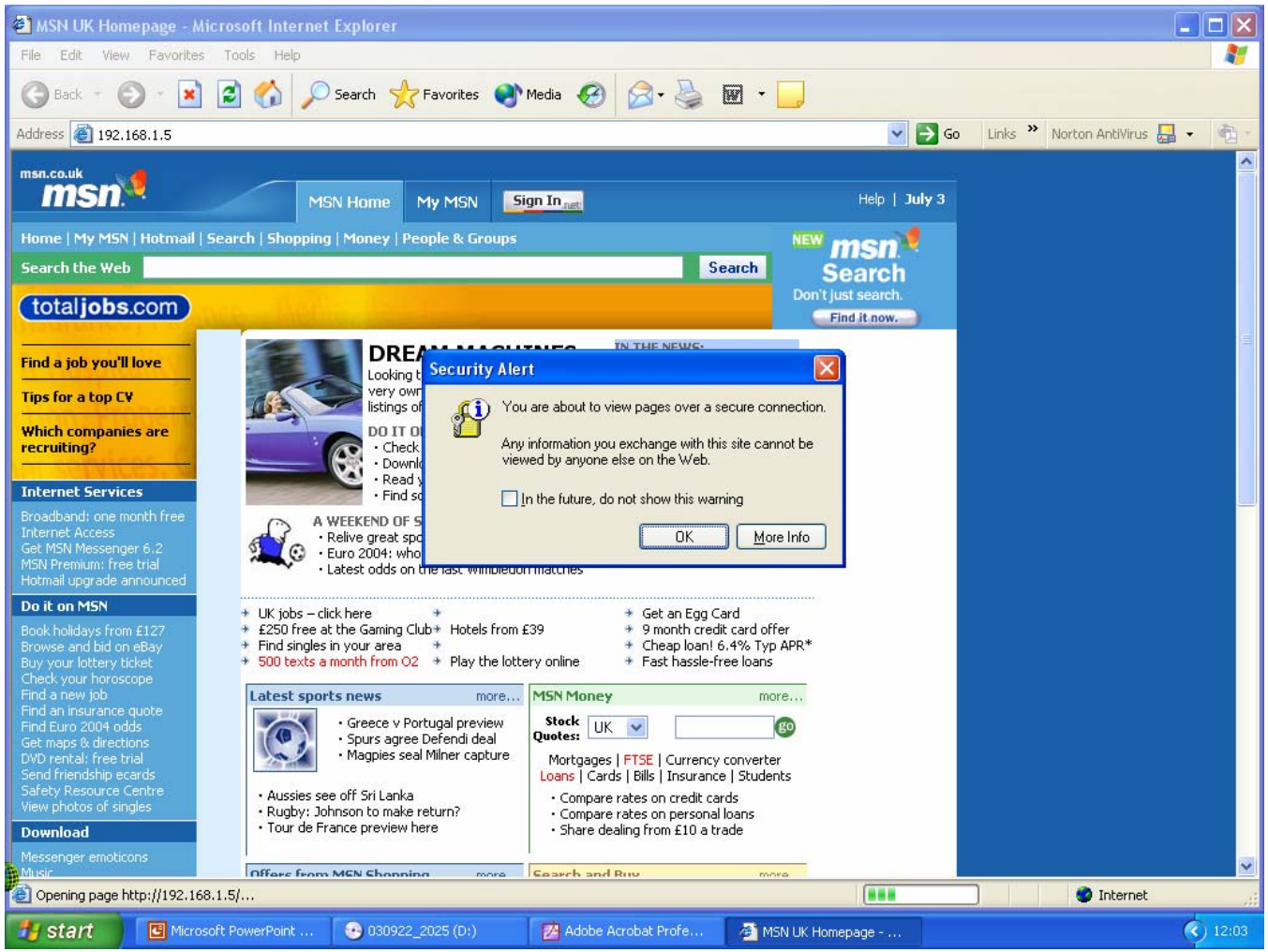
How do I get logged on?

- Set network properties



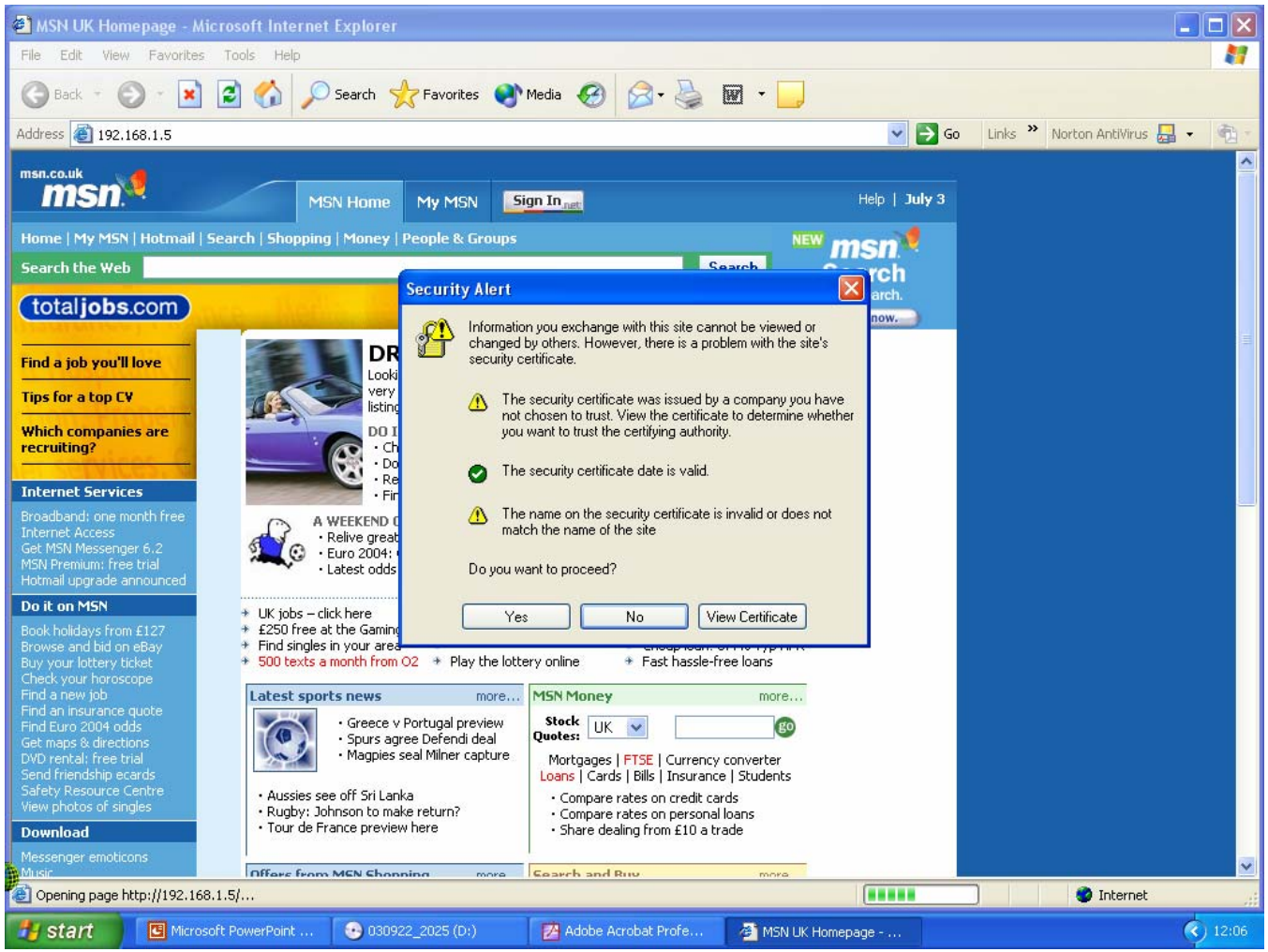
How do I get logged on?

- Start web browser (Internet explorer Netscape) enter IP address



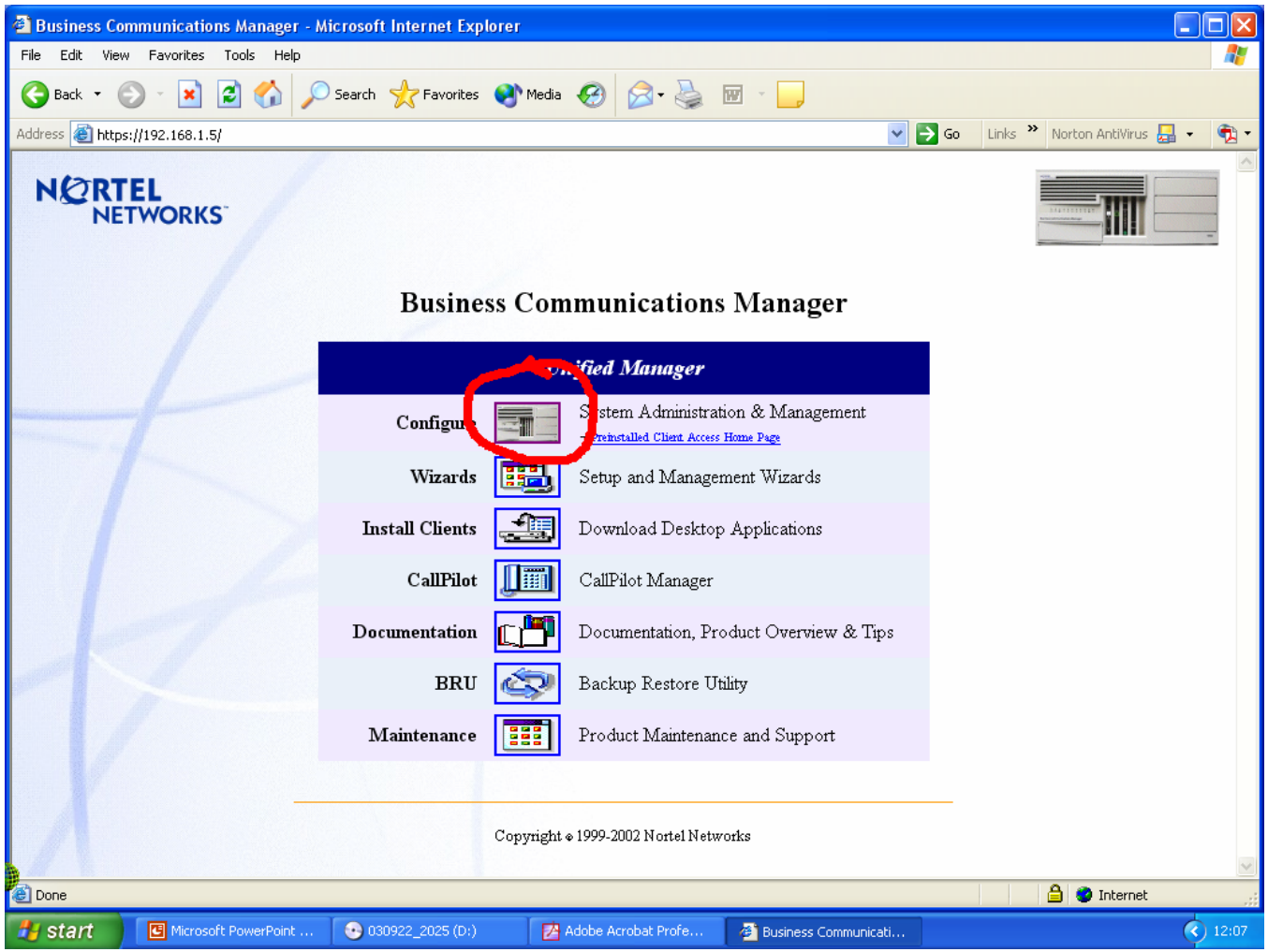
How do I get logged on?

- Agree to security prompt and certificate prompt



How do I get logged on?

- Click on configure icon

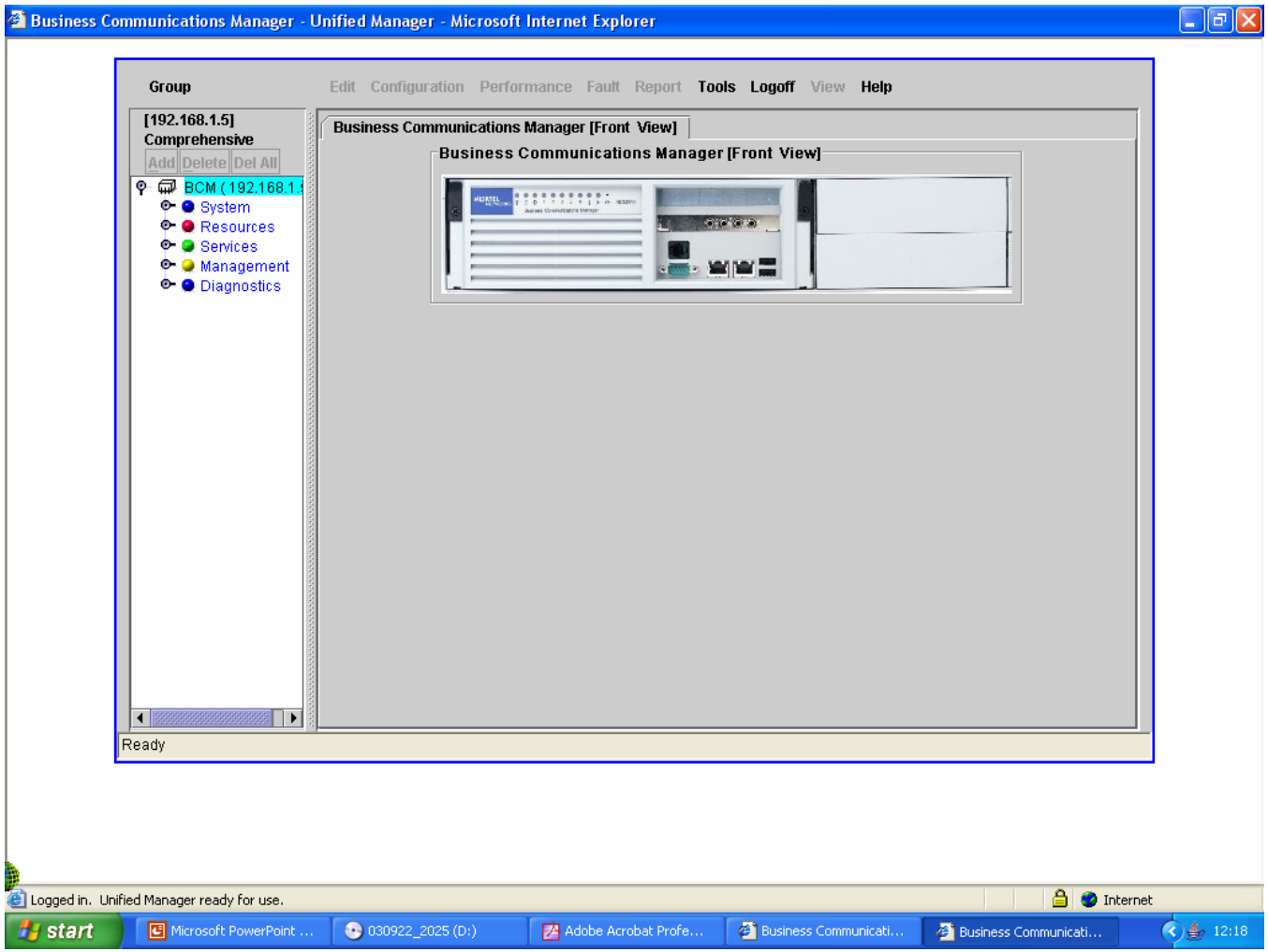


How do I get logged on?

- Enter username (ee_admin) and password (PlsChgMe!) press enter

How do I get logged on?

- Congratulations you have logged on to the BCM system



The BCM structure

The BCM is structured in to sections. Each section will let you configure information related to certain applications or system wide settings. On The next page are a few examples of how the BCM is structured.

The BCM structure

System

Under the system parameter you will find menus that hold information that is system wide or unique to the MSC card. Things like the system name,time and date,region,system ID,key codes and domain information

Resources

Under the resources tab you will find menus that govern how the BCM allocates resources everything from MBM,LAN,WAN and MSC resources

Services

This is where the BCM hold all the menus for all system applications from IP Telephony,telephony,telnet,LAN CTE,DHCP and all other applications

Management

This section of programming controls users,users groups and all management functions

Diagnostics

The system hold some diagnostic information about MBM and trunk Metrics. Not all system errors are under this section

How do I get logged on?

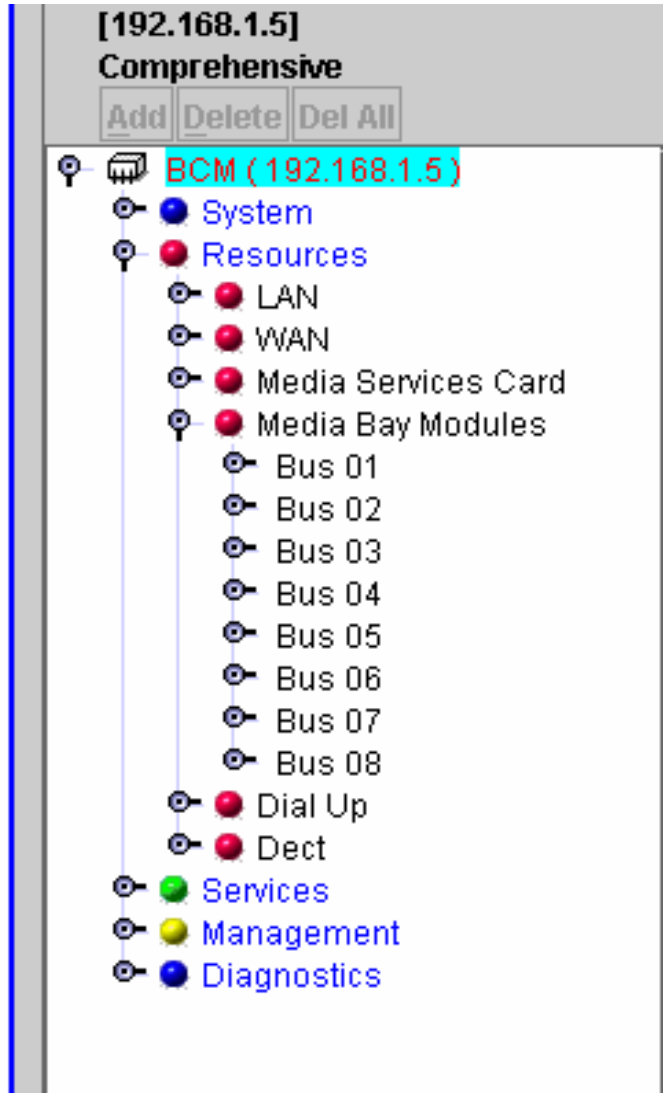
- Set network properties
- Start web browser (internet explorer Netscape)
- Type in the default IP address of the BCM (10.10.10.1)
- Agree to the security prompt
- Agree to the certificate prompt
- The main BCM screen will appear
- Click on the configure icon the BCM will then load the login screen
- The system will then ask for a username and password
- Username **ee_admin**
- Password **PlsChgMe!**

logged on?

- Now we know how to log on
- How the system is structured
- How do we finish configuring the media bay modules

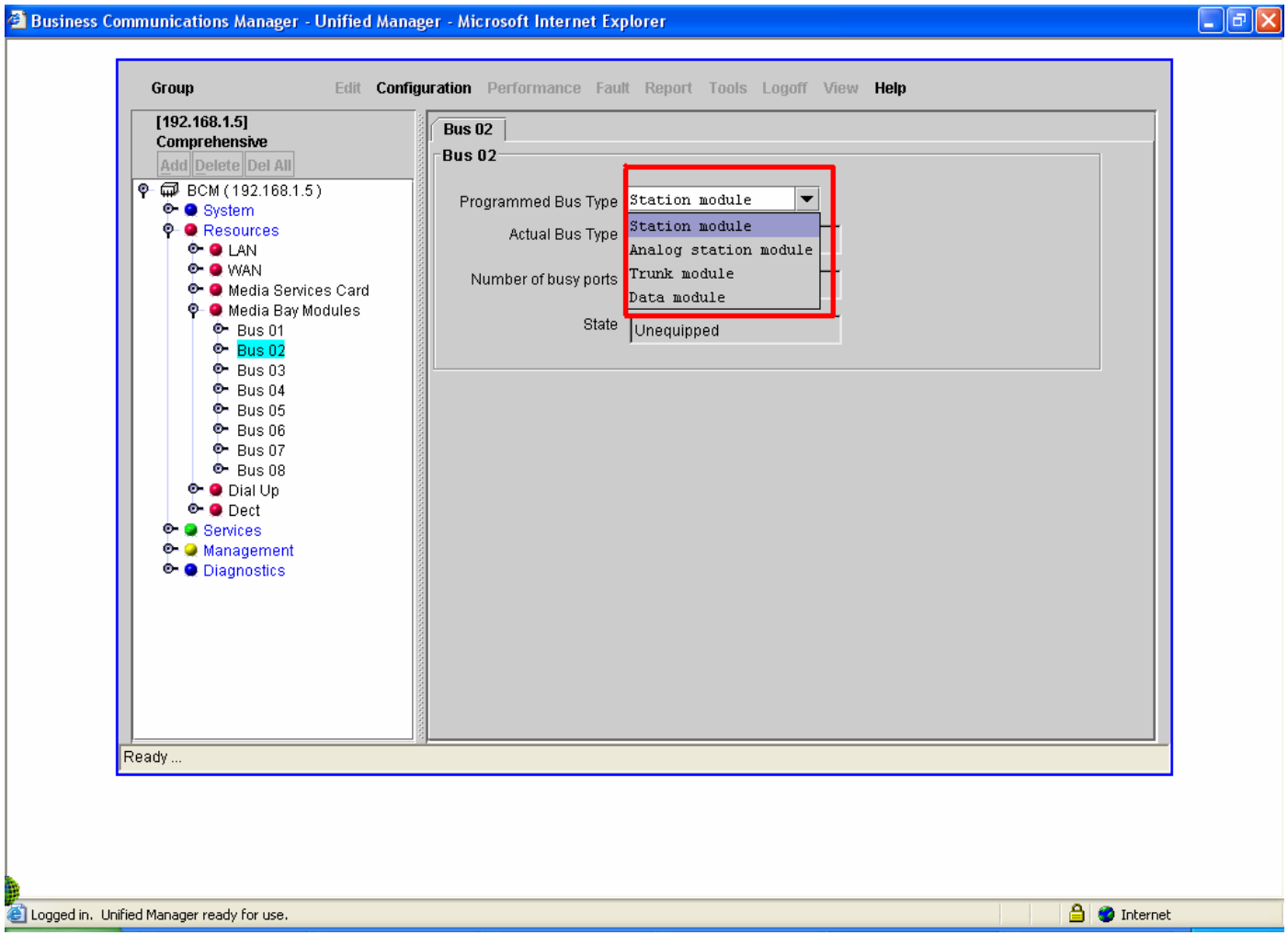
Station media bay module programming

- Logon to BCM system
- Click on Key beside resources
- Click on key beside media bay modules
- Click on media bay module you want to configure



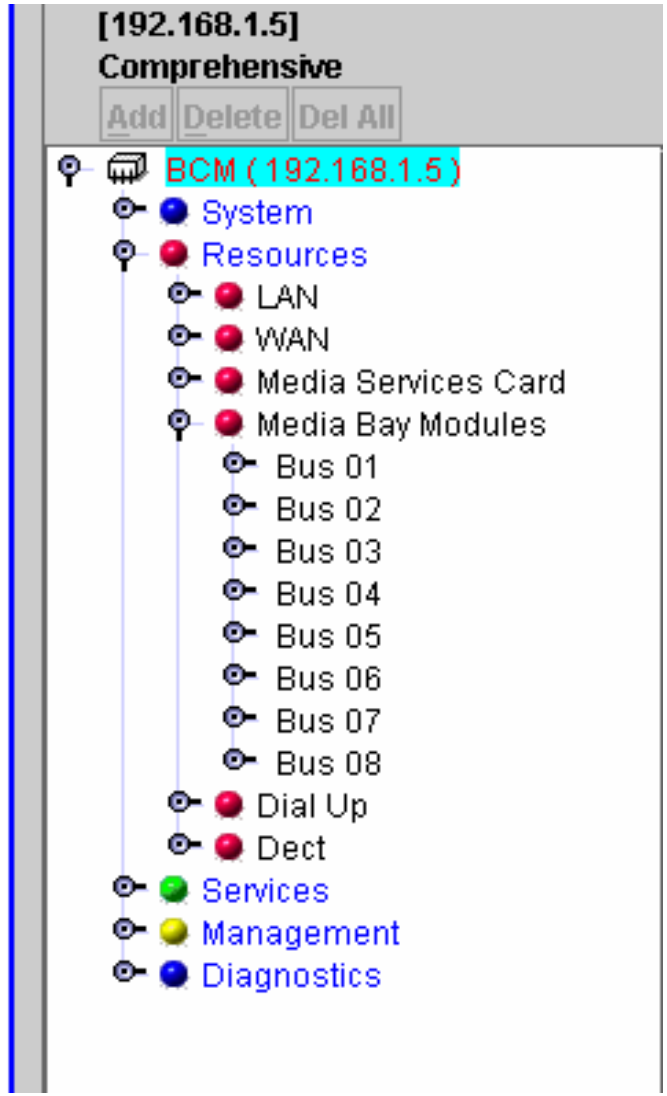
Station media bay module programming

- Set bus parameters to station module



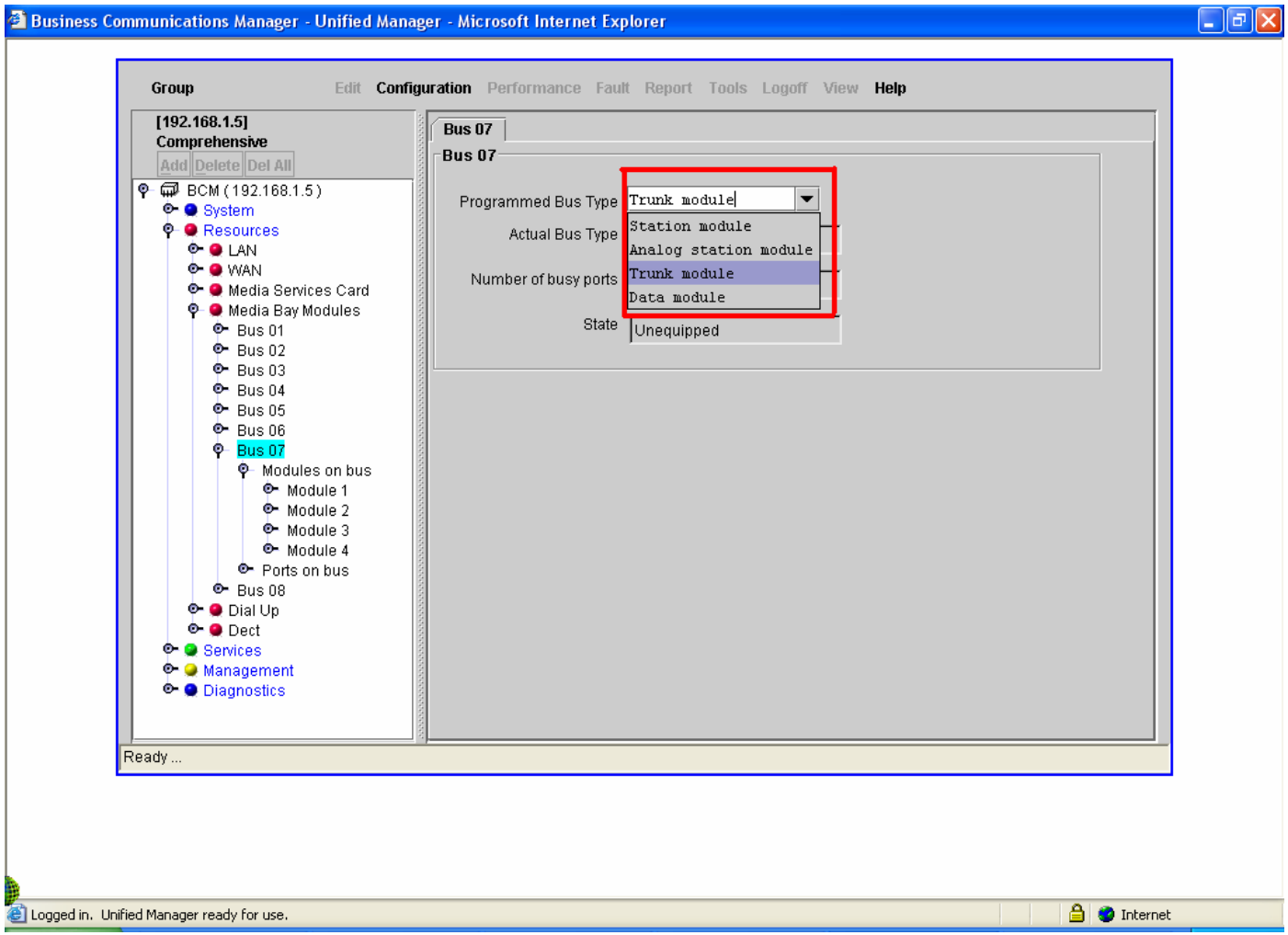
Trunk media bay module programming

- Logon to BCM system
- Click on Key beside resources
- Click on key beside media bay modules
- Click on media bay module you want to configure



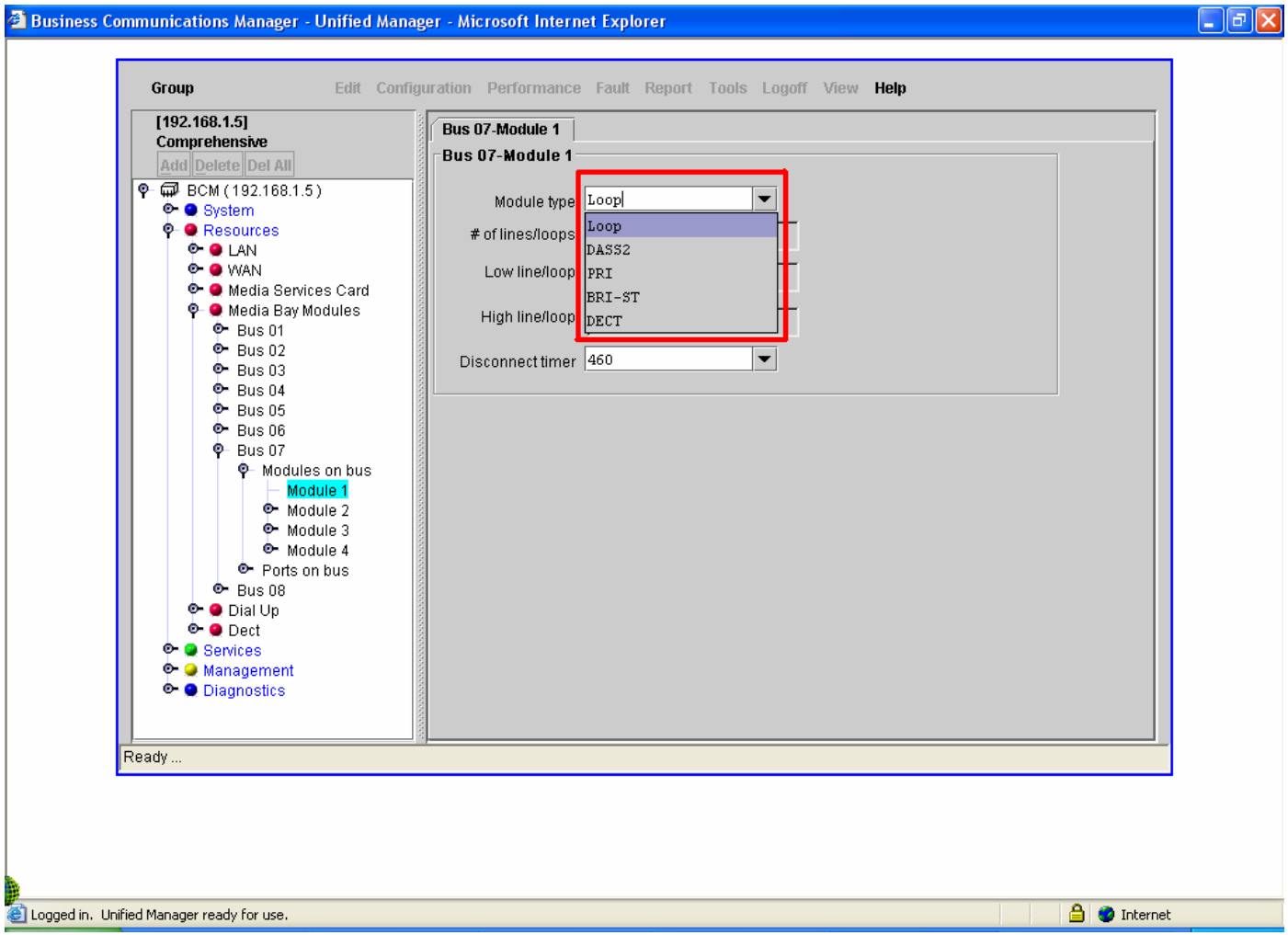
Trunk media bay module programming

- Set bus parameters to trunk module



Trunk media bay module programming

- Set Line type under module type



Configuring DSM 32 module summary

- Example

Install DSM 32 on bus 2

- Set media bay module dip switches

  off on on on on on

- Configure media bay module in system

- Log on to BCM

- Click on key beside resources,Then click on key beside media bay modules, Click on bus 2 and set as station module

Configuring Trunk module summary

- Example

Install DTM on bus 7

- Set media bay module dip switches
  on on on off on off
- Configure media bay module in system
- Log on to BCM
- Click on key beside resources,Then click on key beside media bay modules, Click on bus 7 and set as trunk module
- Click on key beside bus 7, Select module 1 and change to PRI

BCM users

The BCM out of the box will create the username ee_admin with the password PlsChgMe!.

How do we change this and what can we set up.

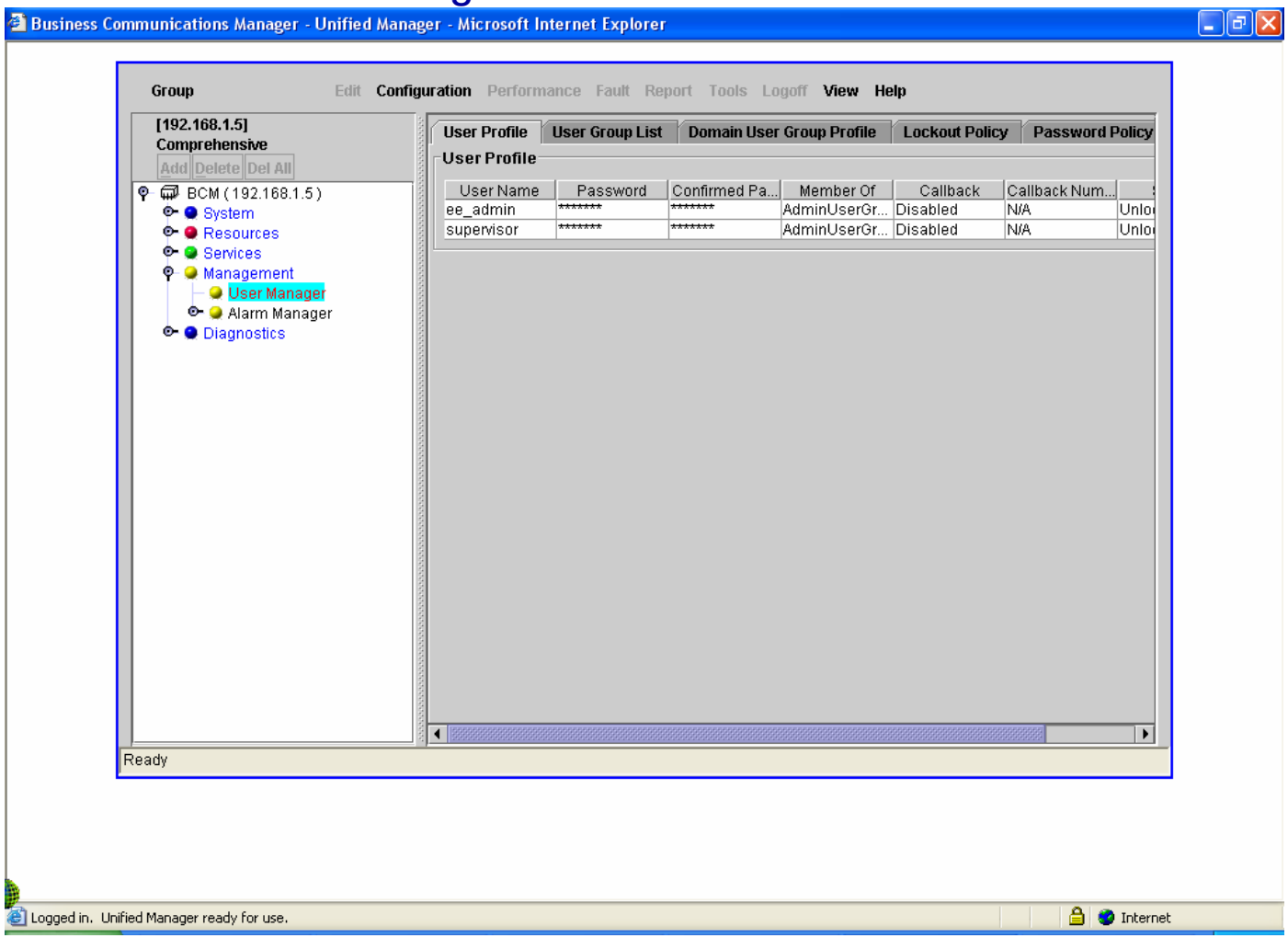
The username ee_admin can never be removed from the system but the password can be changed

We can also create users and limit them to certain sections of the programming.

This function is extremely useful for giving customers the freedom to configure certain extension functions.

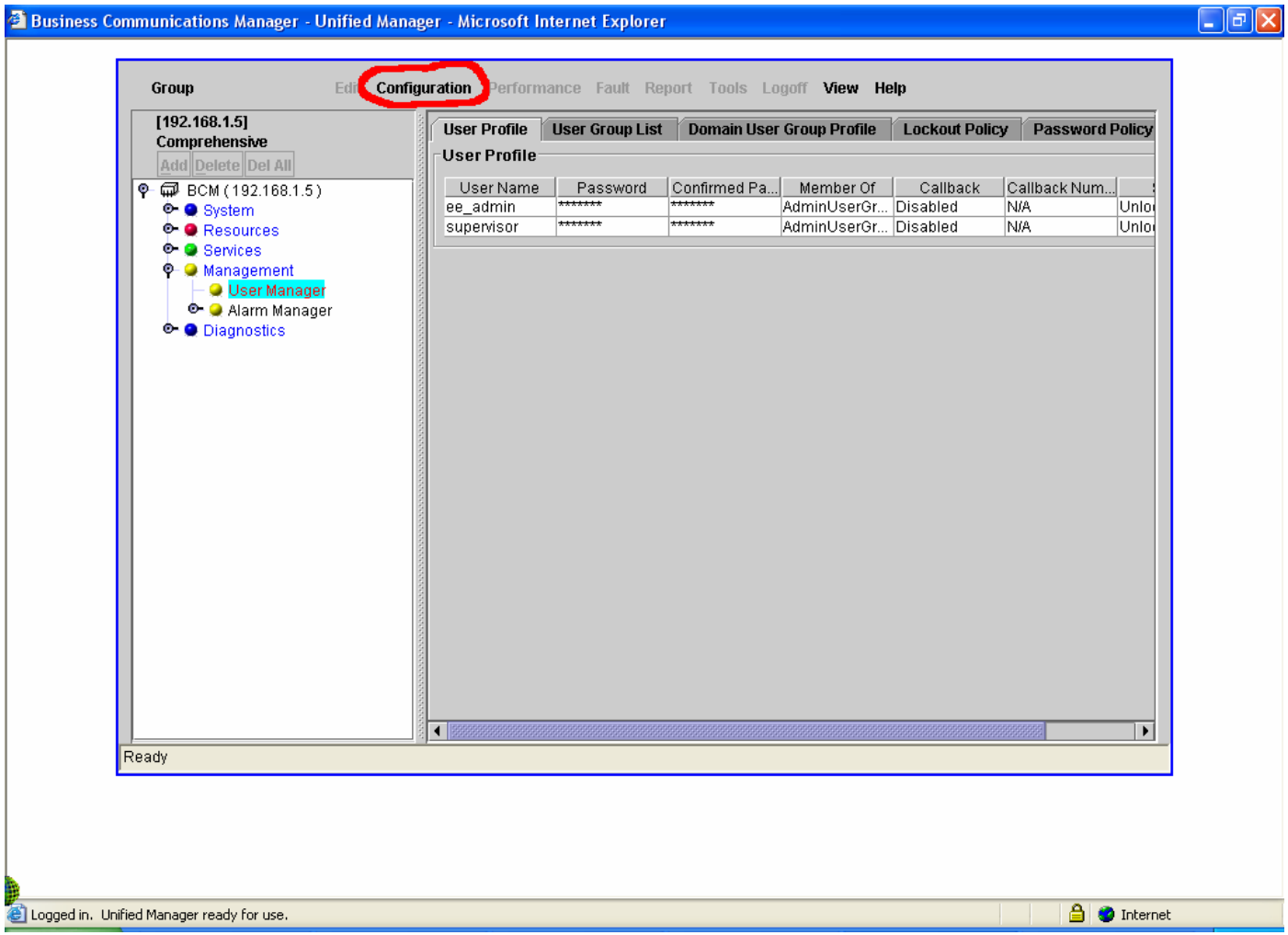
Changing and adding new users

- Click on key beside management
- Click on word user manager



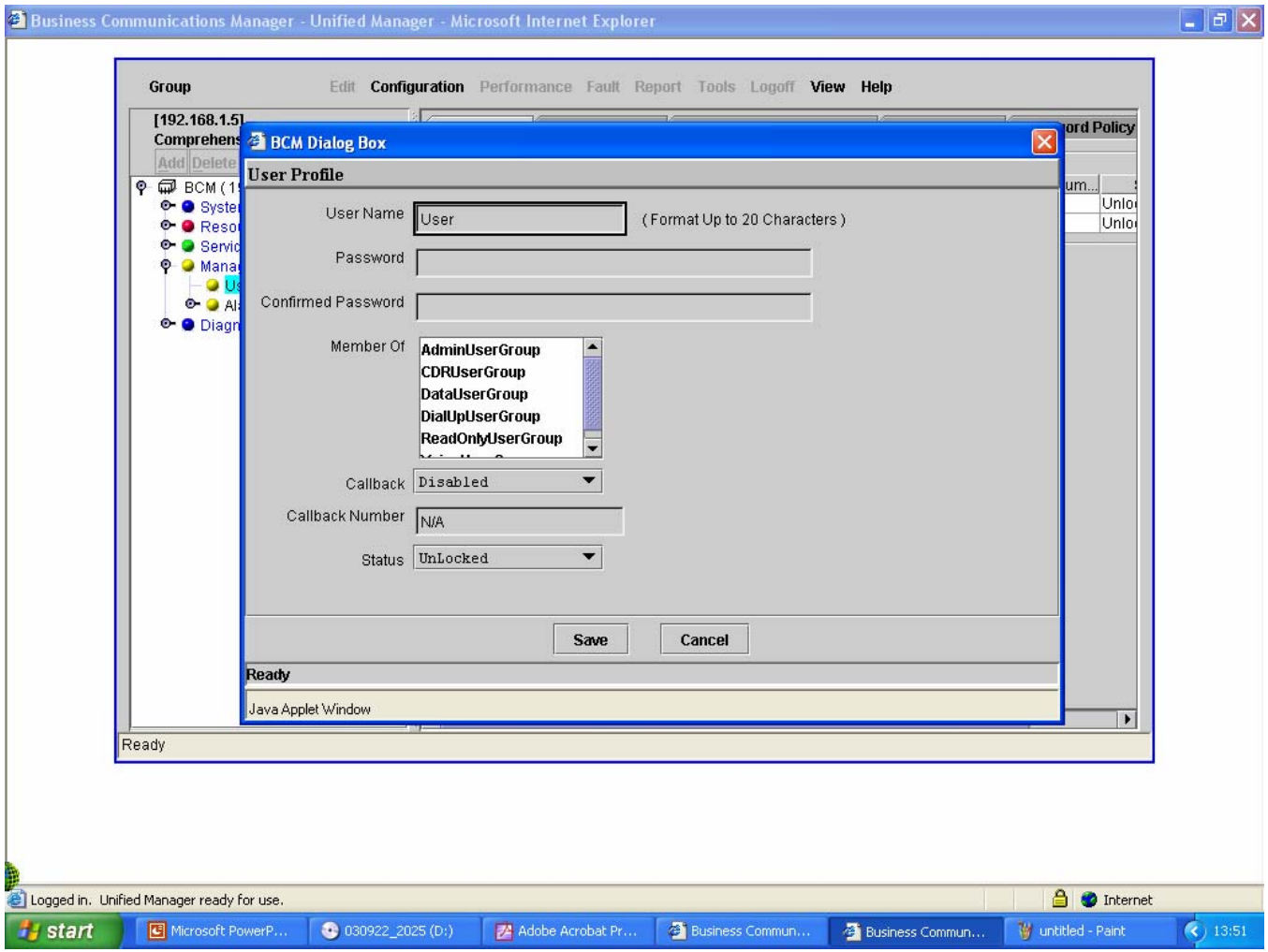
Changing and adding new users

- Click on configuration and then select add user



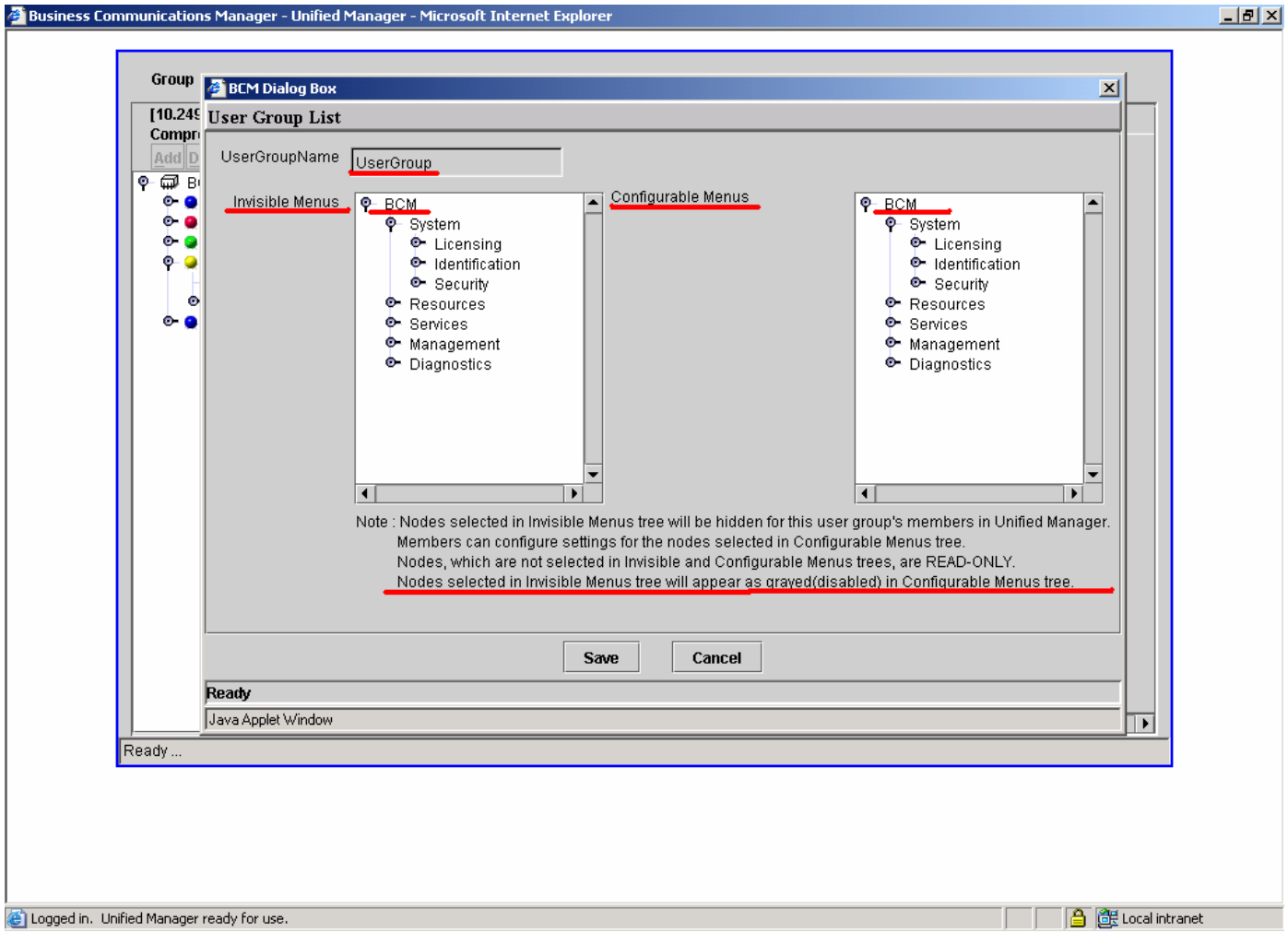
Changing and adding new users

- Fill out all of the fields then click save



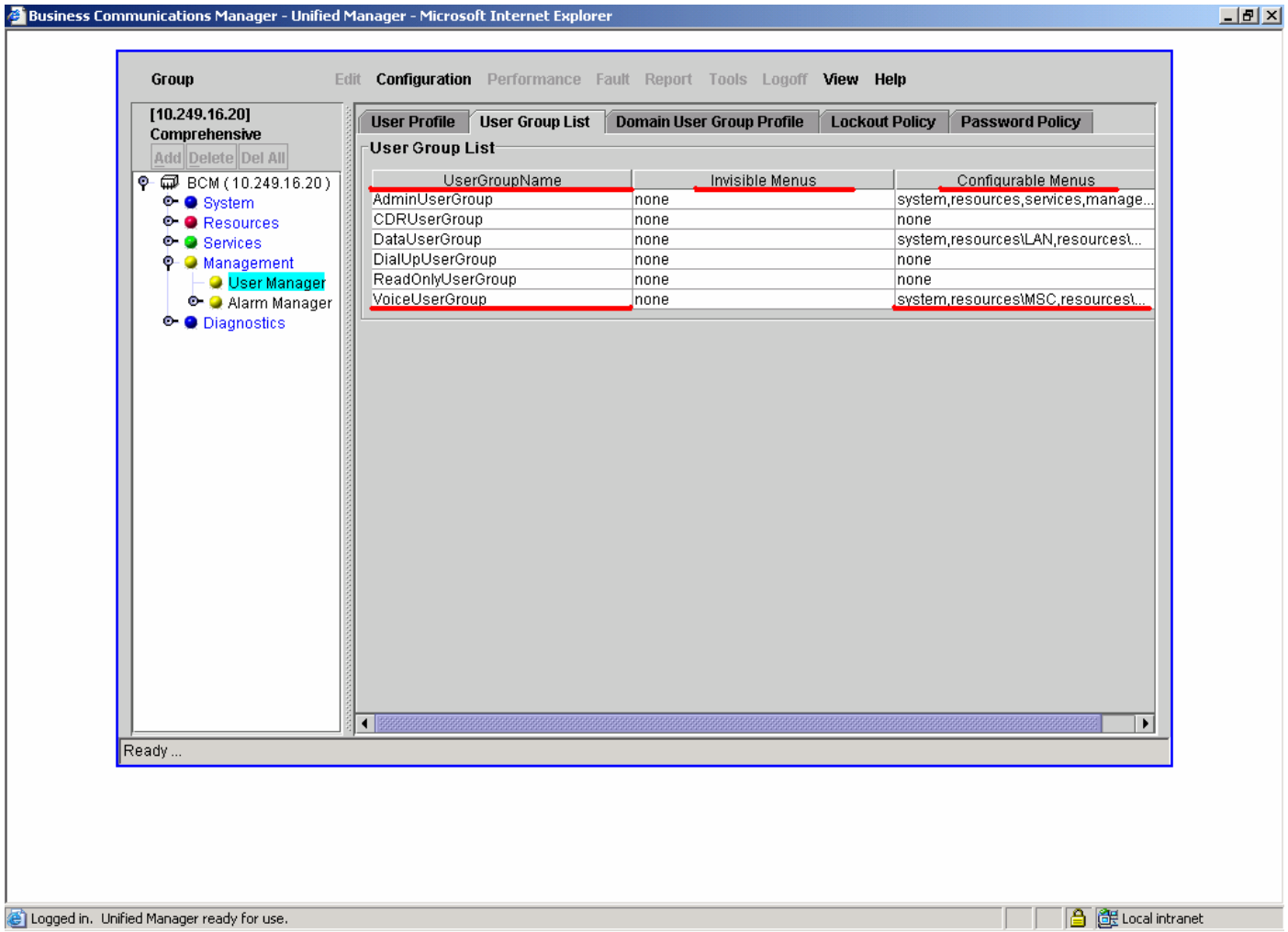
Changing and adding new user groups

- In the screen below you configure the menus on the right and hide them on the left.



User groups

- Each group and all of the parameters are in view at this window.



Adding users and groups

- Create all your groups before you create the new users
- This way you will only have to program your users once
- If we take a customer who wants to administrate the system we can limit them to certain sections of the programming and prevent them from causing any problems.
- Please note that all users can be removed except for ee_admin
- If all passwords are lost the box can not be reset. You need to contact Nortel who will set up VNC access at a cost of 3 thousand pounds Thank You

BCM Exercise MBM and Users

- Install DSM 32 on bus 2
- Install Line Module on bus 7
- Setup new user. Username **master** password **27bnk8**
- Change default password on **ee_admin** to **27bnk8**
- Remove any other user accounts
- Setup new user. Username **speeddial** password **test1234** restrict to speed dial programming only
- Set IP Address on LAN 1 as per next page
- Set System time and date
- Change system name as per next page
- The system will prompt to reboot after changing IP Addresses. Change name and IP Address before rebooting

BCM IP Address LAN 1

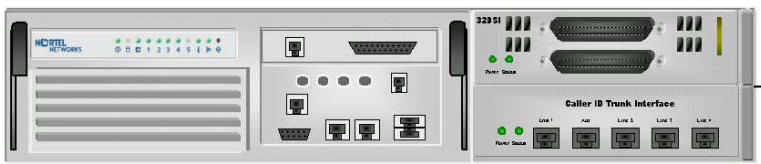
BCM A

192.168.1.1
Ext Range 2000

BCM B

192.168.2.1
Ext Range 3000

BCM C



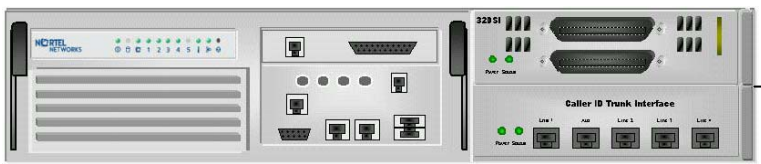
192.168.3.1
Ext Range 4000

BCM VOIP NETWORK

BCM A 192.168.1.1

BCM B 192.168.1.2

BCM C 192.168.1.3



DATA Switch

Day 2

- Entering key codes
- Configuring MSC resources
- Configuring primary rate lines (ISDN 30e DASS2)
- Basic call routing
- Configuring basic rate lines (ISDN2e)
- Programming target lines
- Installing and programming key system extensions
- Installing and configuring IP phones
- Installing and configuring ATA2
- Programming target lines
- Exercise 2

Generating key codes

The BCM system comes complete with all of the applications loaded. They require a key code to be enabled.

Each BCM system has a unique system ID. The key code is generated for that BCM system and will not work on any other BCM system.

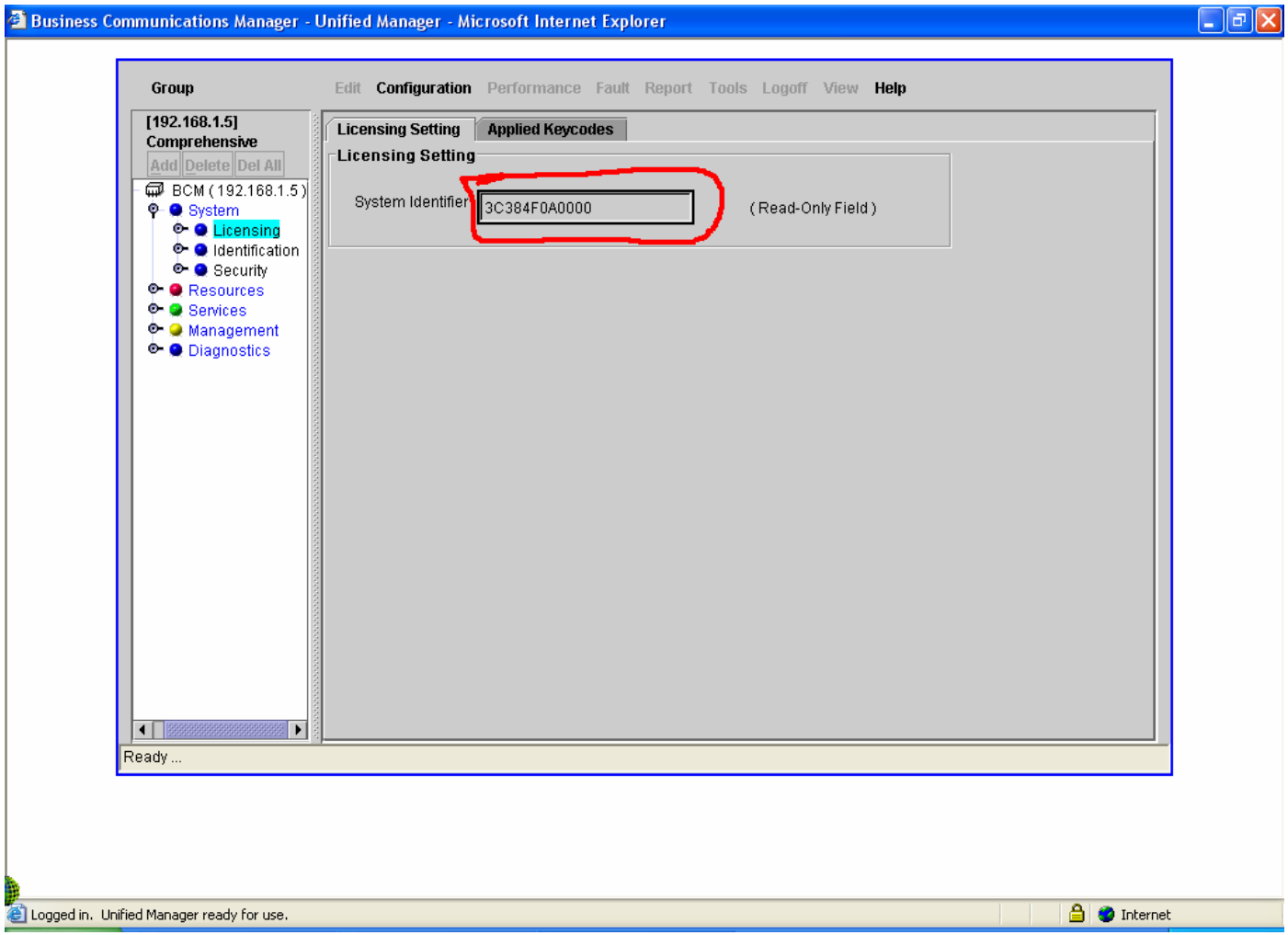
When a key code is purchased you will receive a authorization number. You will need to generate a key code on the BCM KRS2 system at the Nortel website.

A key code is made up of 24 numbers (3 blocks of 8)
12345678-12345678-12345678

Some Key codes require a reboot for the key code to become active (you will be prompted by the BCM if this is the case)

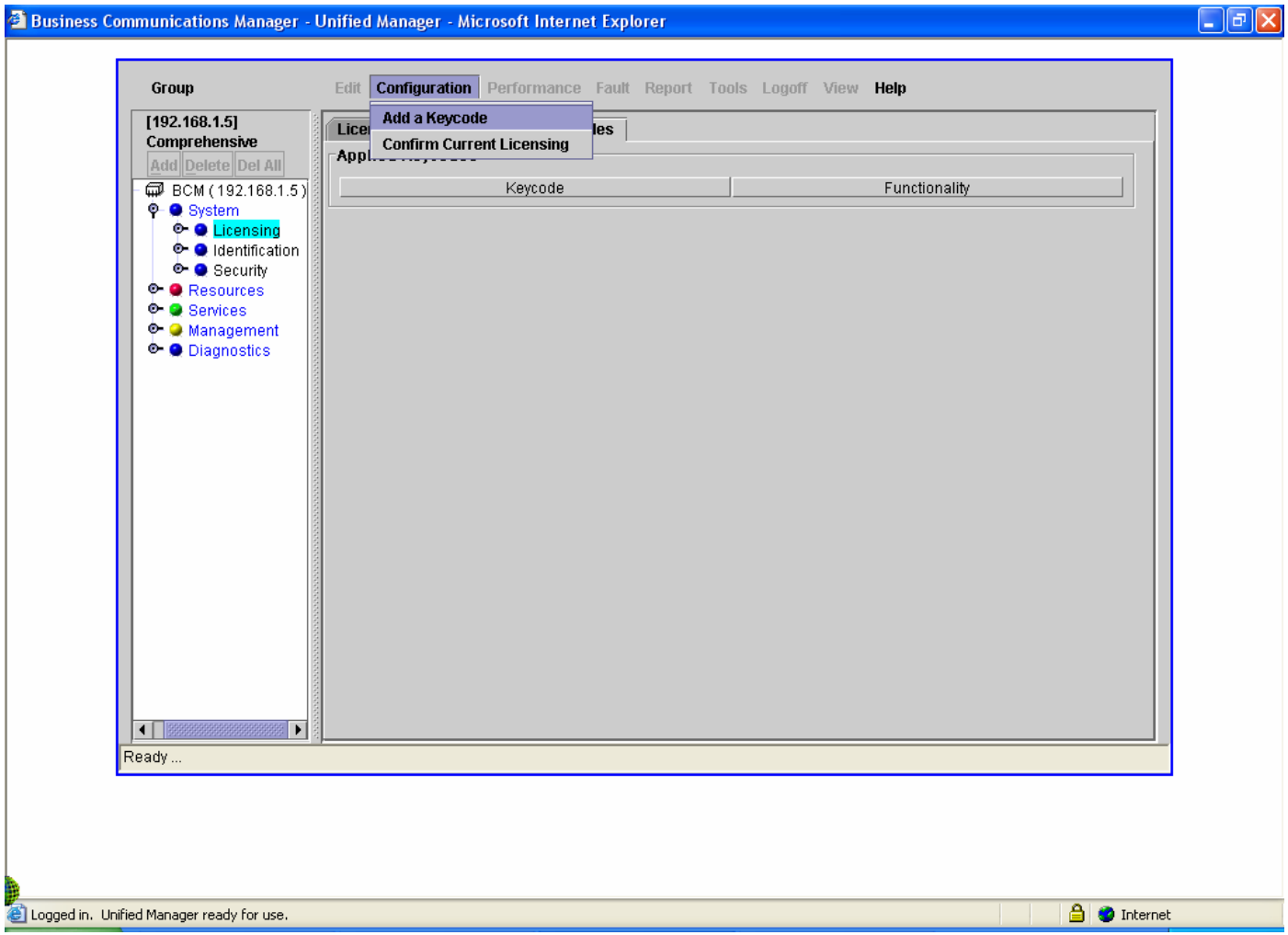
Entering key codes

- Click on key beside system. Click on word Licensing



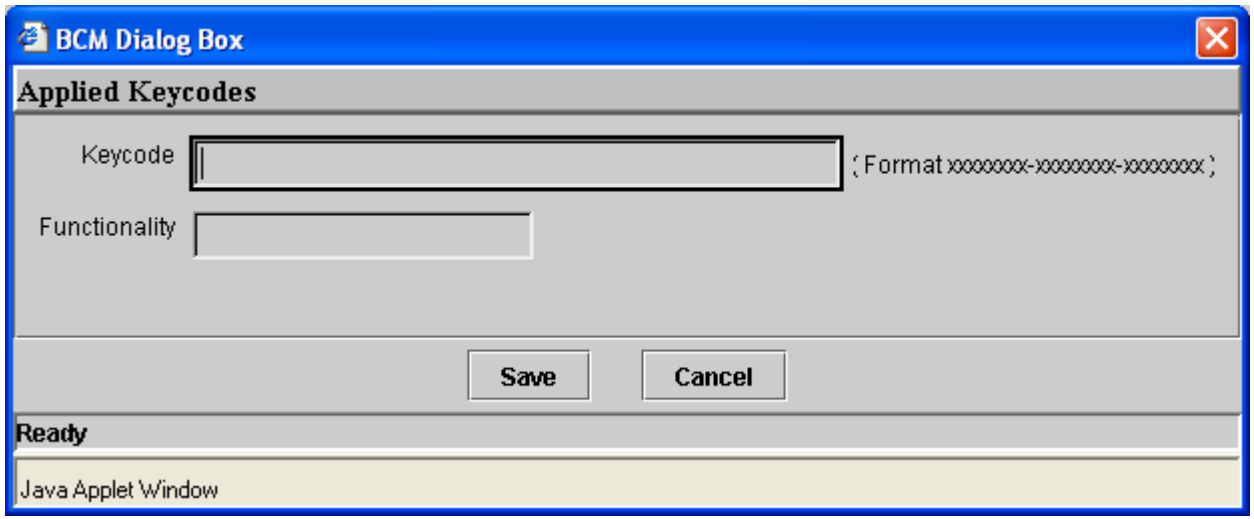
Entering key codes

- Click on configuration select add a key code



Enter key code

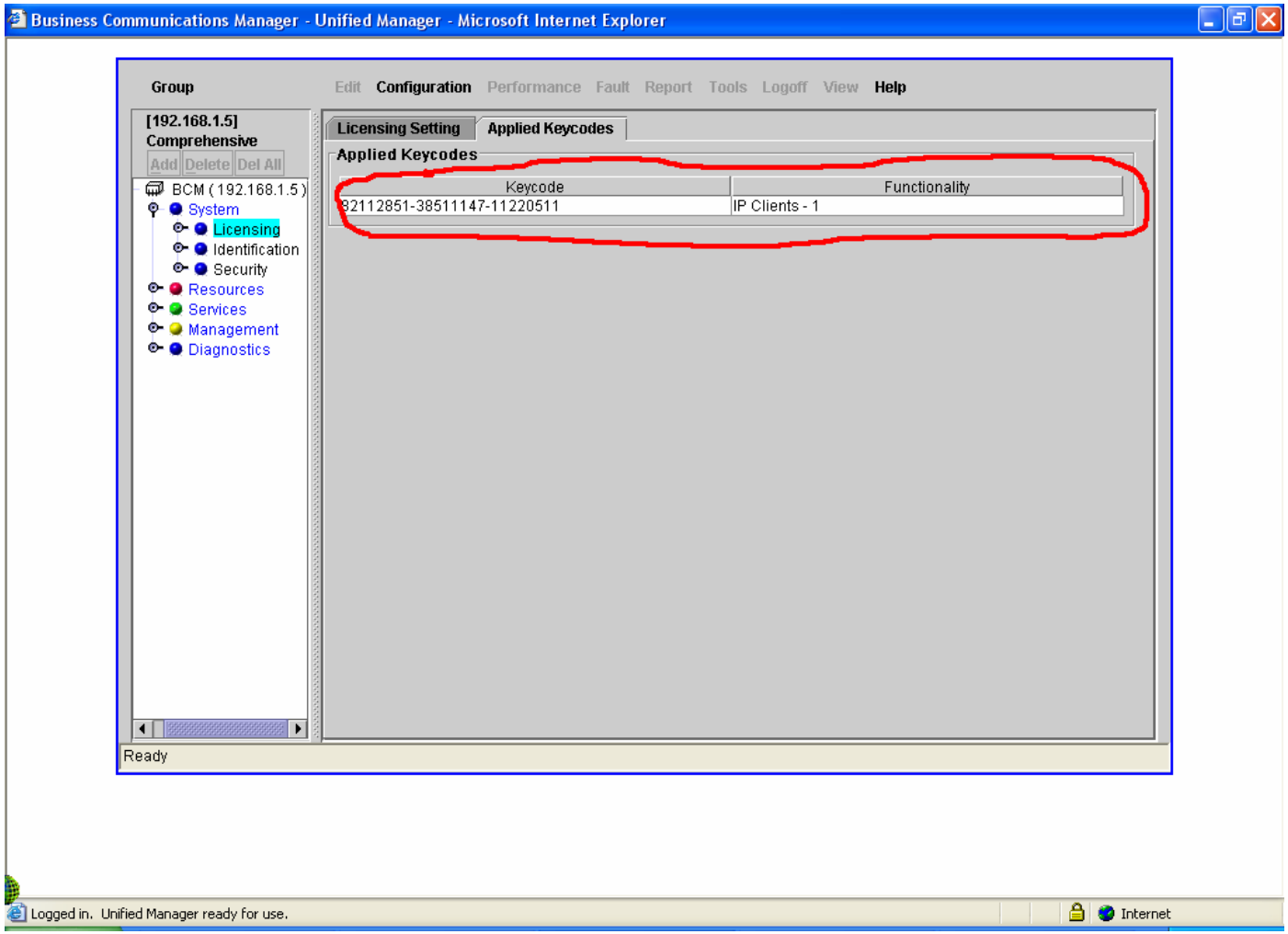
- Enter your 24 digit key code and click save



- The BCM will confirm if you have entered the key code correctly

New key code function

- The applied Key code window will now have the key code entered and a description of the key codes function



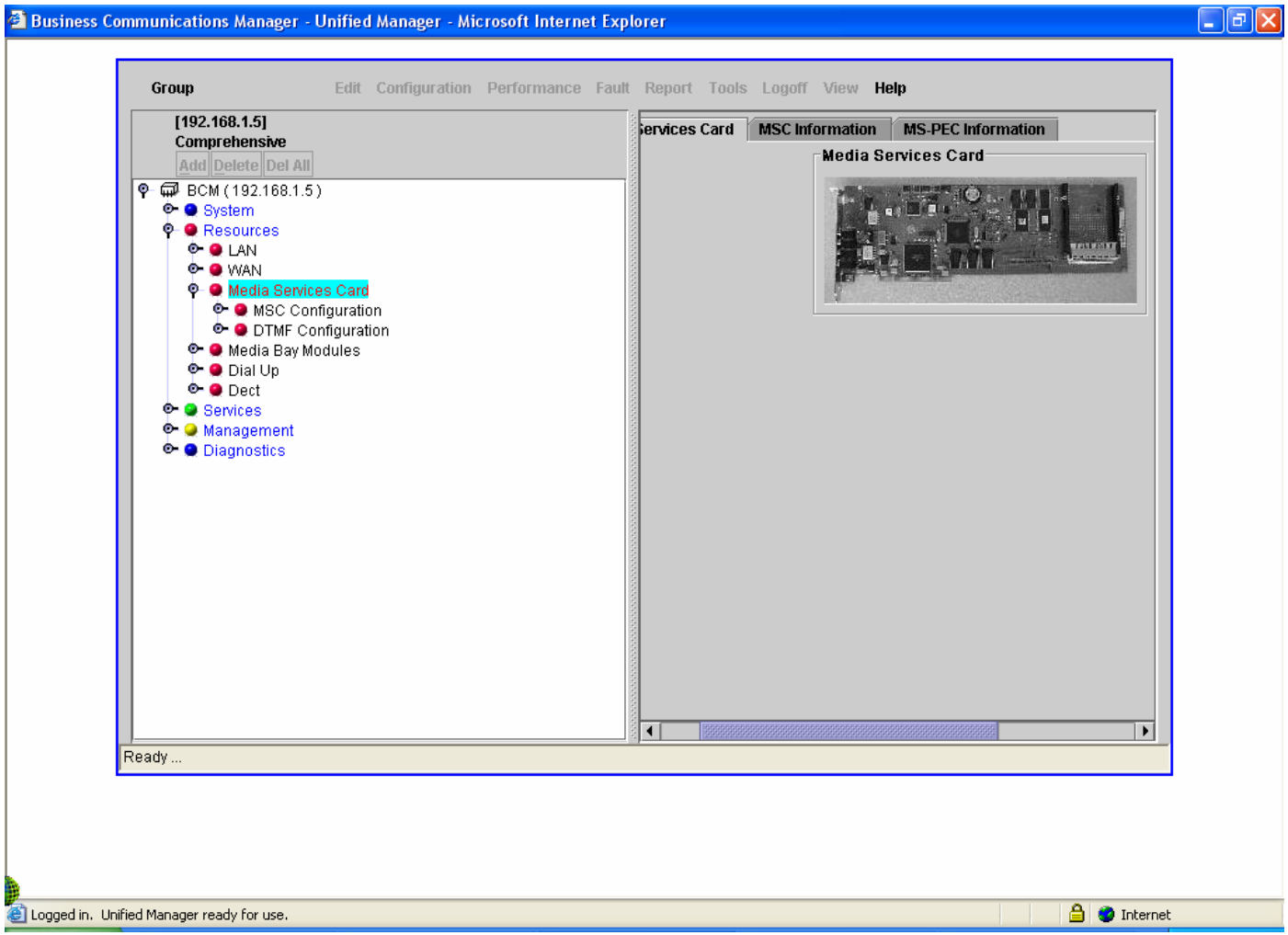
What are MSC resources?

The BCM has limited resources and these are allocated by using the MSC Configuration. The resources that are available are dependent on the MSPEC cards that are installed on the BCM.

- BCM 200 1 MSPEC 4 (upgradeable to 2)
- BCM 400 2 MSPEC 4 (upgradeable to 4)
- Signaling Channels
- Voice Channels/Voice bus paths
- Media Gateways/Media Channels
- DSP resources

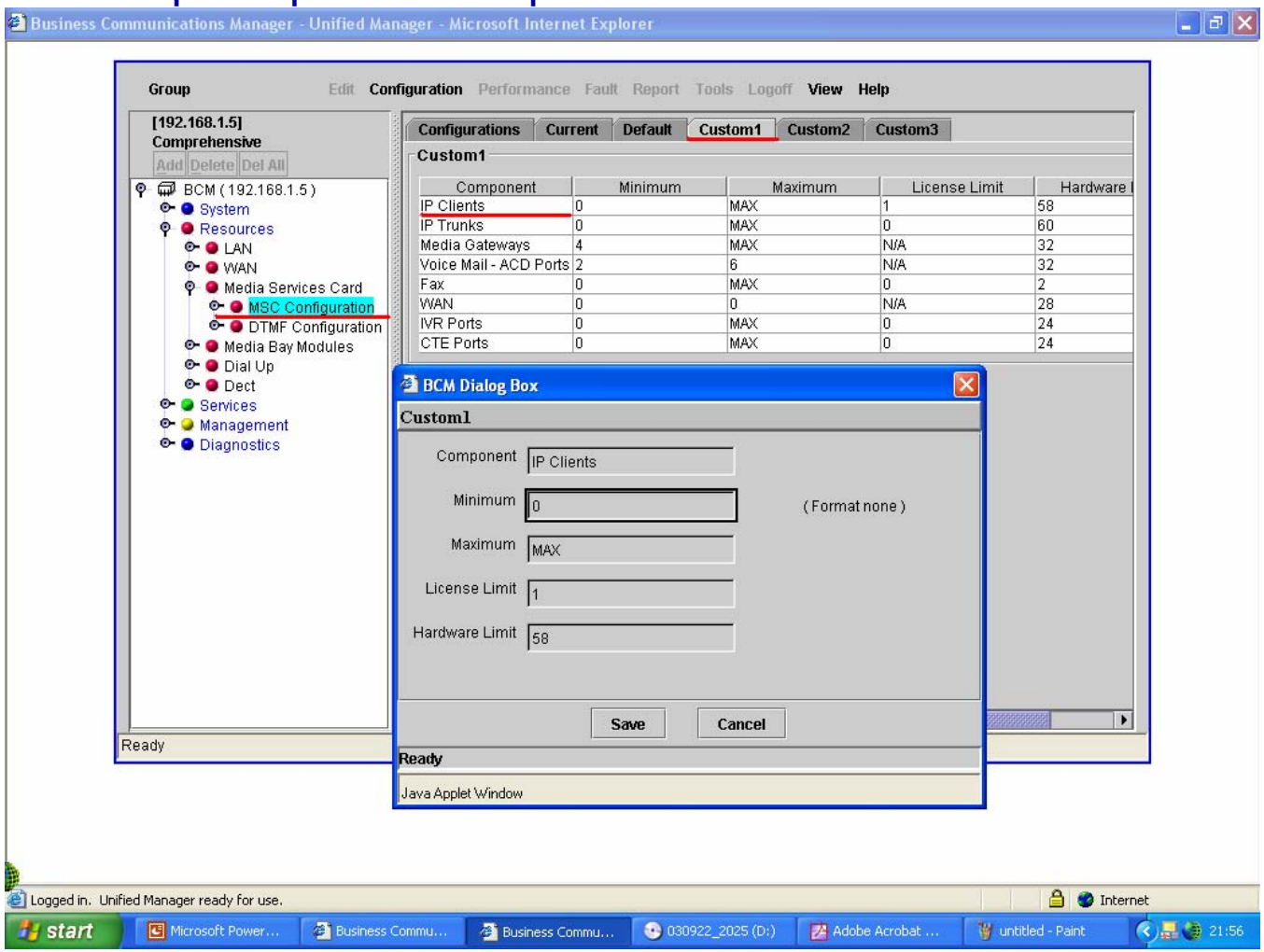
How to allocate resources?

- Click on key beside resources then click on key beside media services card



How to allocate resources?

- Click on MSC configuration then click custom 1 edit and save
- System will prompt for an update



Configuring Lines on the BCM system

We configured are trunk media bay module.We now need to program how the trunk media bay module operates and how many lines are available from the network provider to finish the programming so the customer can make and receive calls.

The system configures the trunk modules to begin on bus 7 and the first available line on the system is 61. The reason for this is that we can have up to 60 IP trunks so the first 60 lines are allocated to the VOIP.

How to setup BRI lines (BRIM)

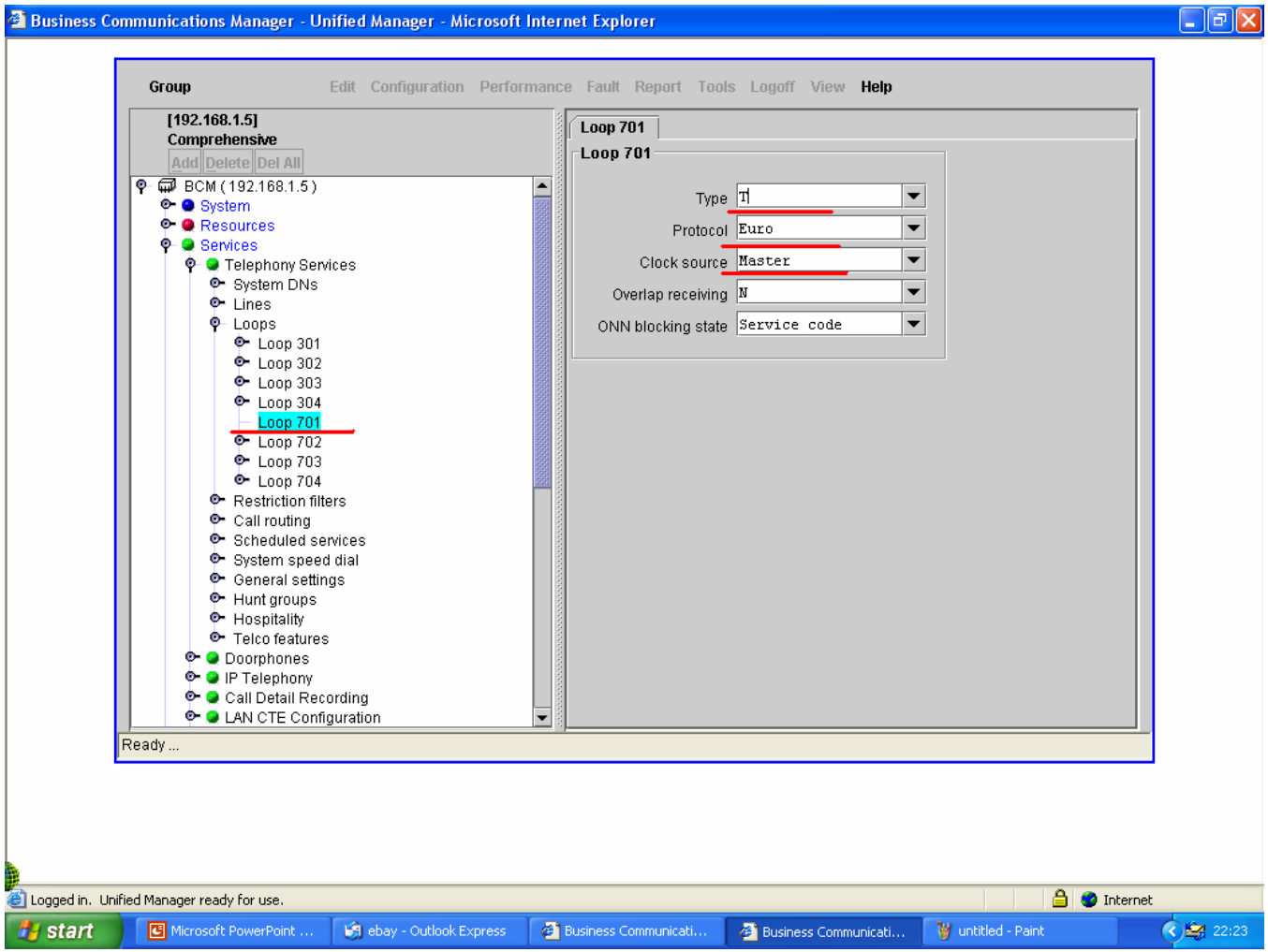
BRIM Programming

How to setup BRI lines (BRIM)

- After you have installed you BRIM Media bay module and configured it in the BCM. You need to complete the programming to utilize the lines.
- The first step is to find out how many lines are being provided by the network provider.
- The next step is to remove all the other lines that are not being used
- Now you have the amount of lines being provided and the lines in a group. You know need to create access to the line group
- Once all of the above is completed you should now have a fully working ISDN2e circuit

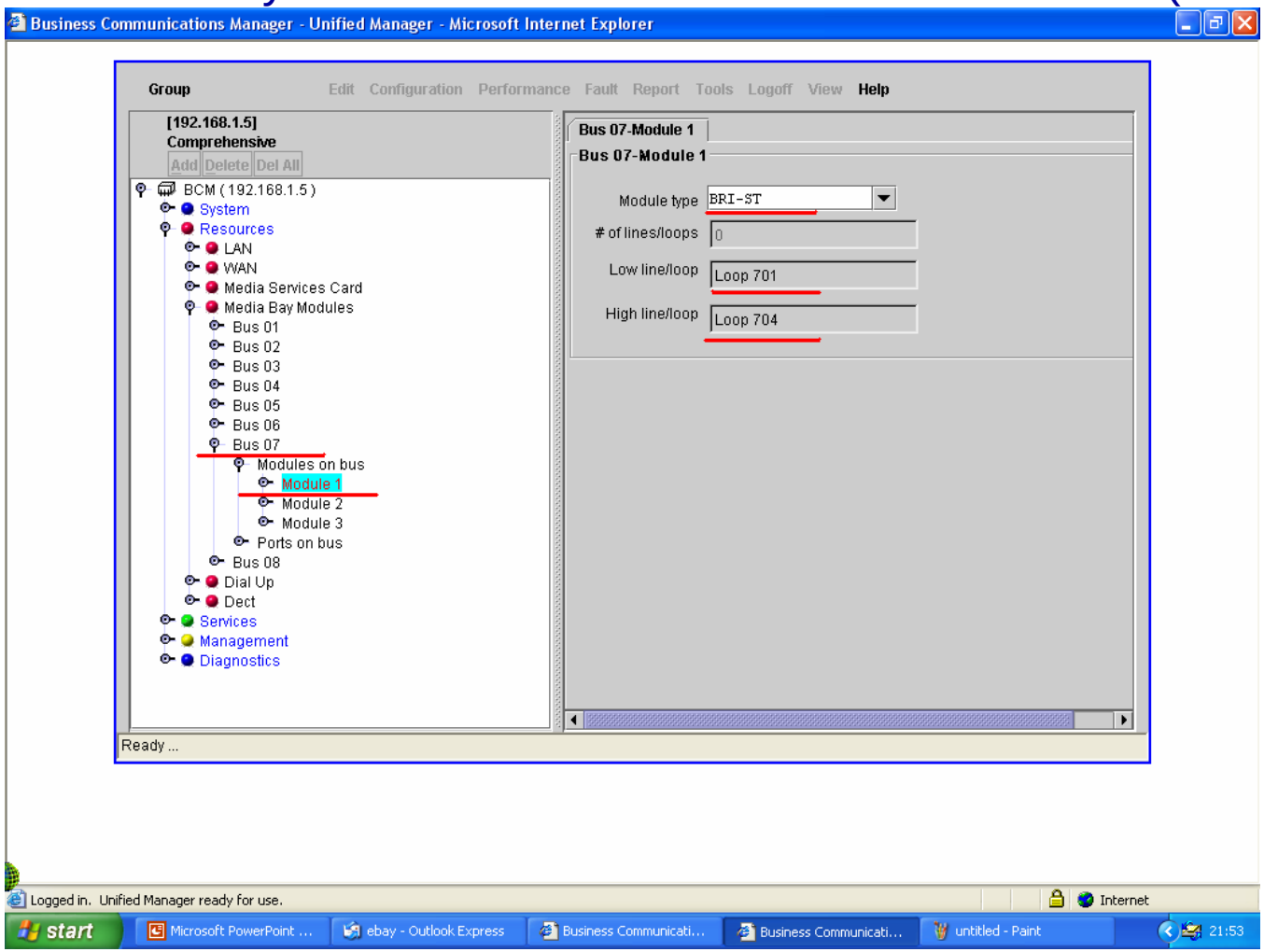
Setting up Lines as Trunk Lines

- A BRIM can function as an S bus or a T bus but who do I configure this
- Services, Telephony services, Loops



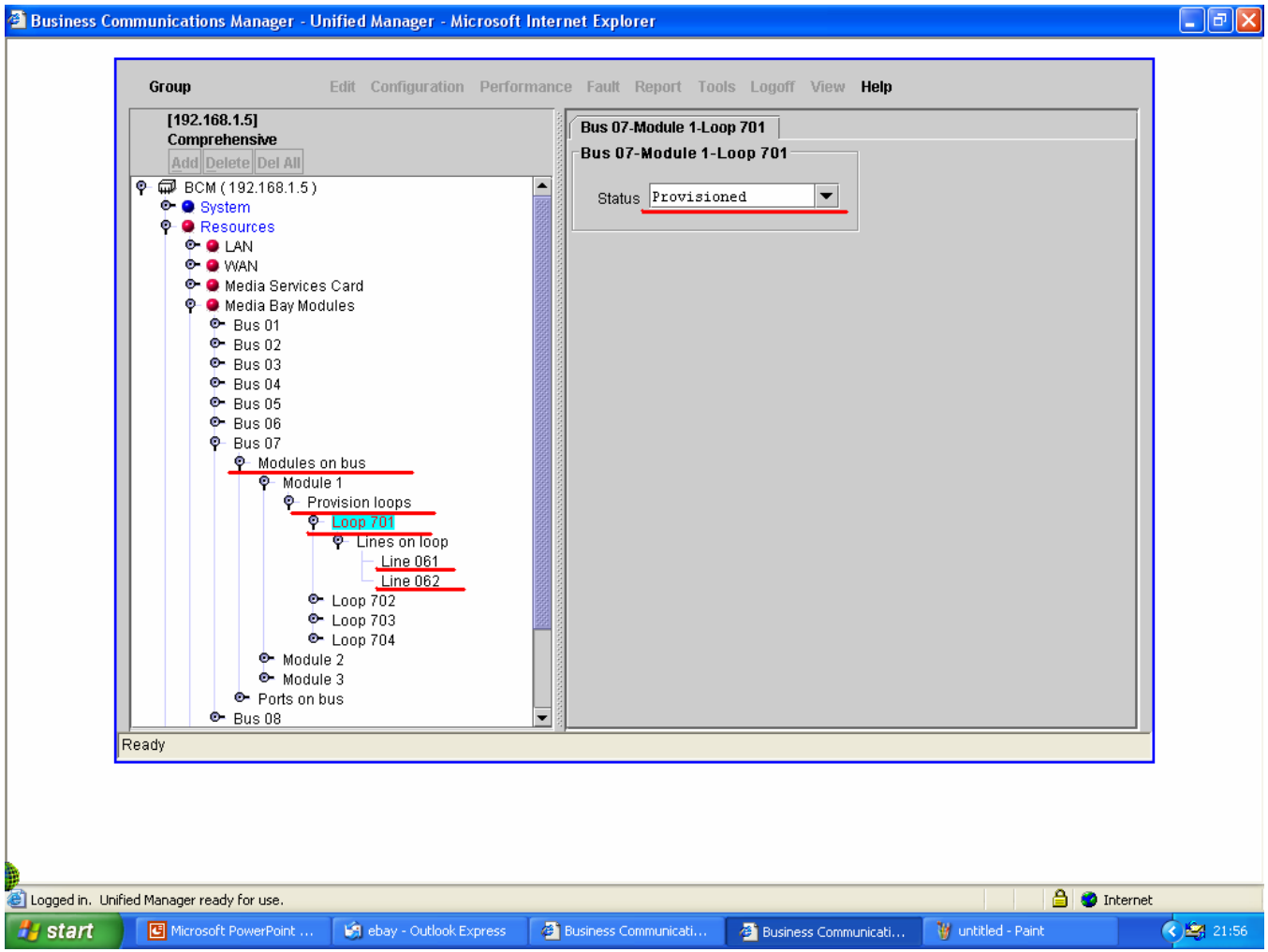
Removing the lines not provisioned by ?

- Choose resources Media bay modules
- Choose the bus you have the BRIM module installed on (switch settings)



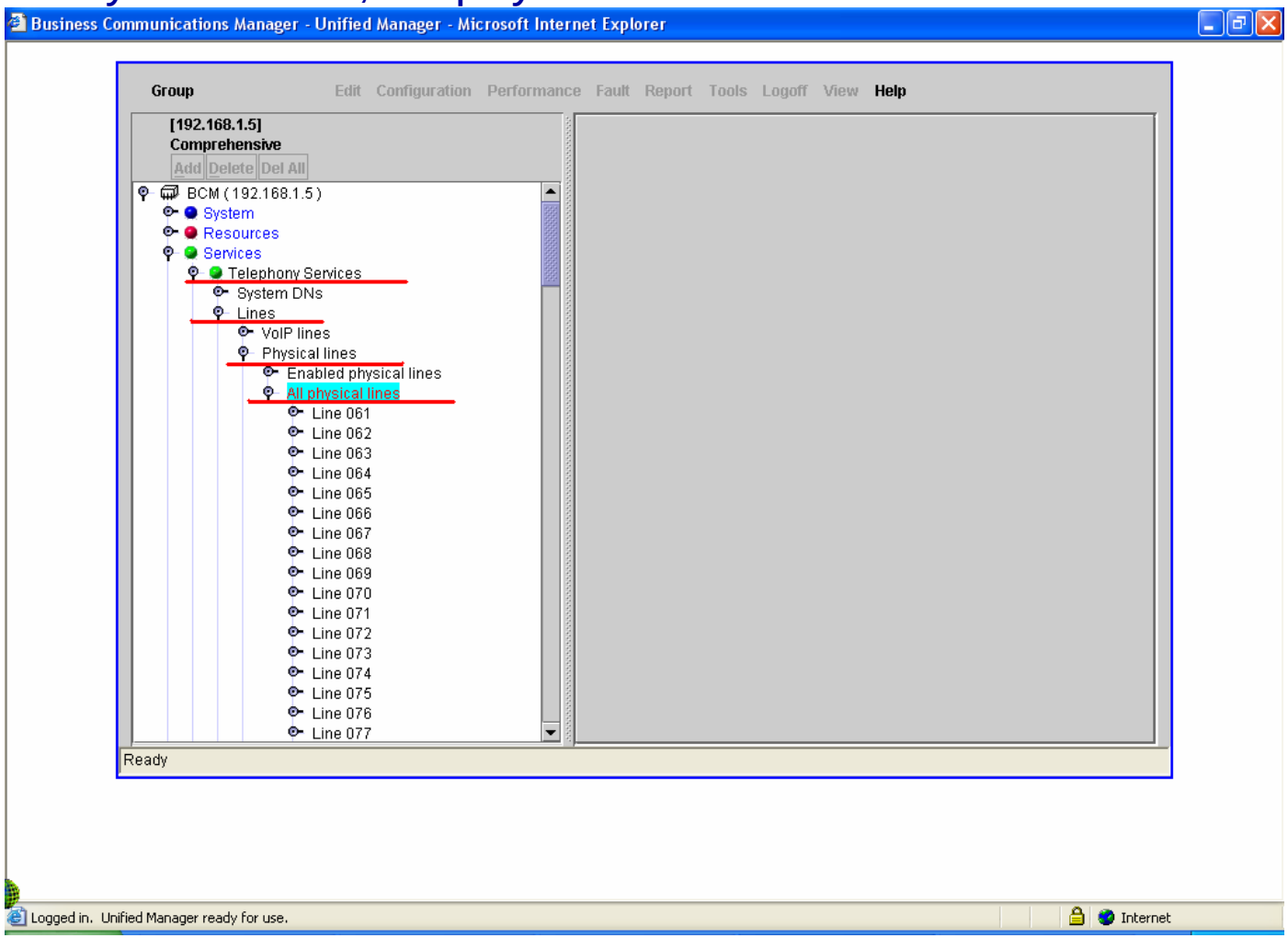
Removing the lines not provisioned

- Expand module 1 on modules on bus heading
- Expand provisioned lines and disable the lines not required



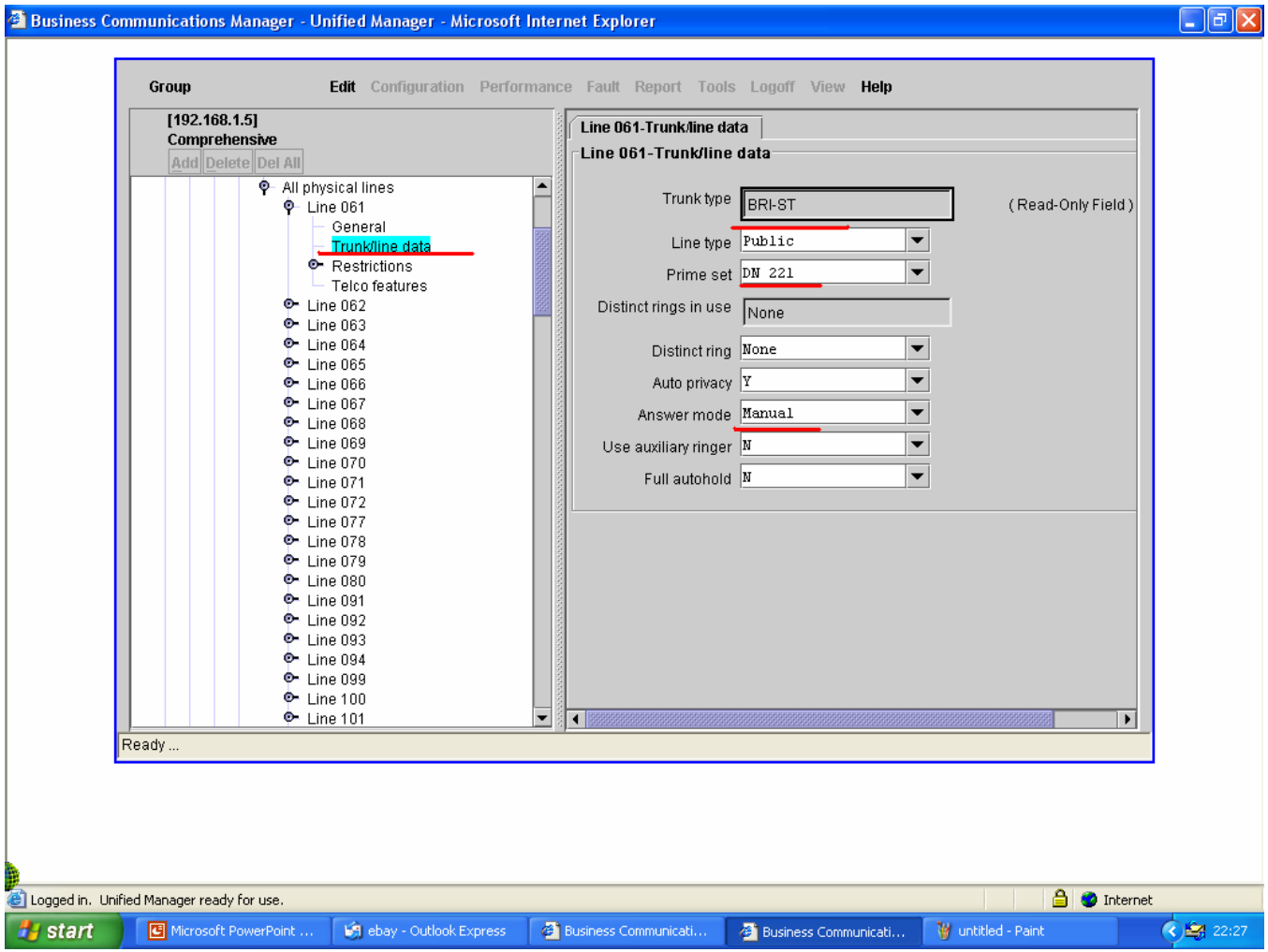
How to setup the BRIM line Group

- Expand services, telephony services and then expand lines.
- Select Physical Lines, all physical lines



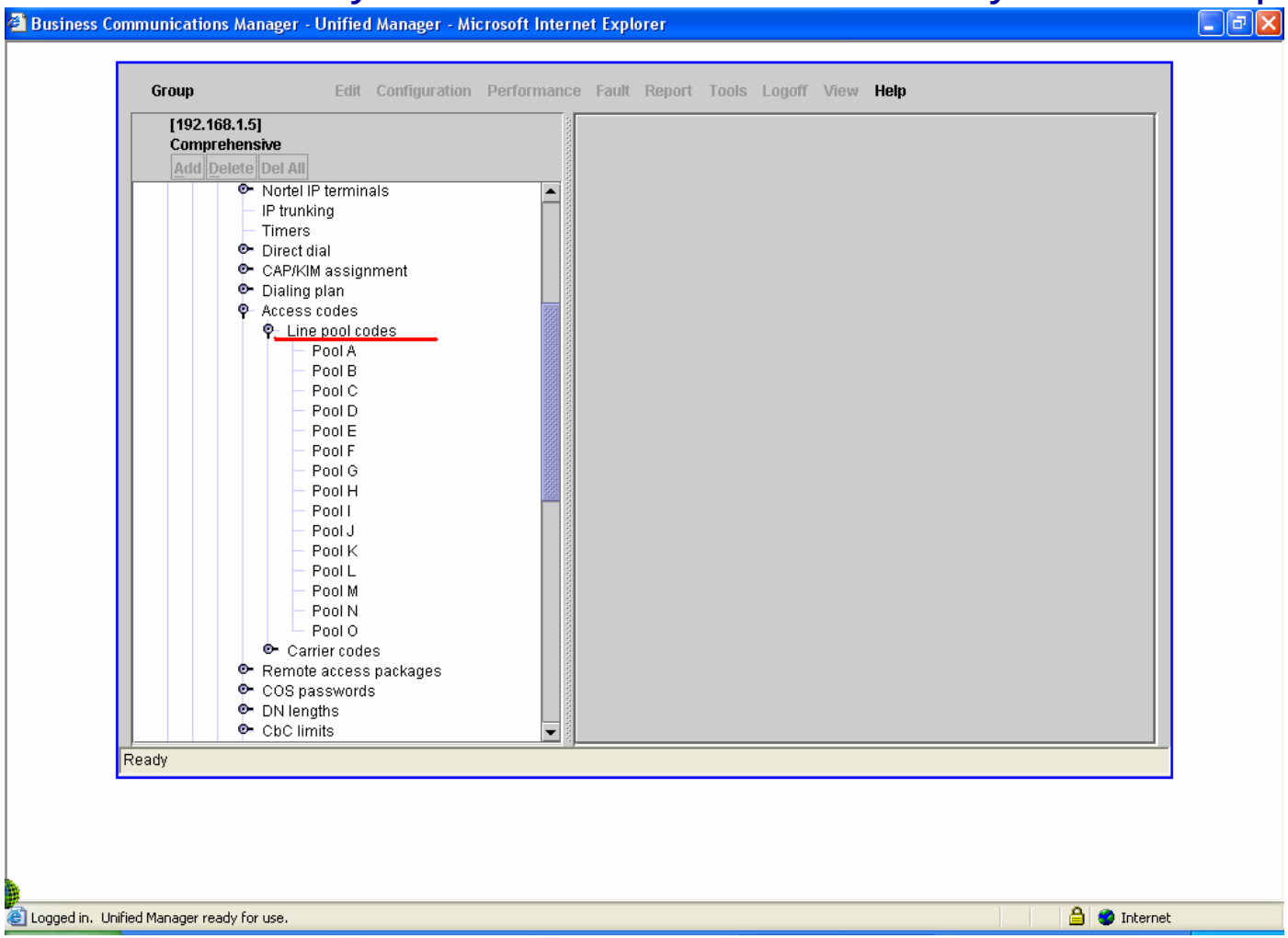
How to setup the BRIM line Group

- Expand the first line and click on trunk/line data
- Select Line group, Prime DN, **To use DDI set answer mode to auto**



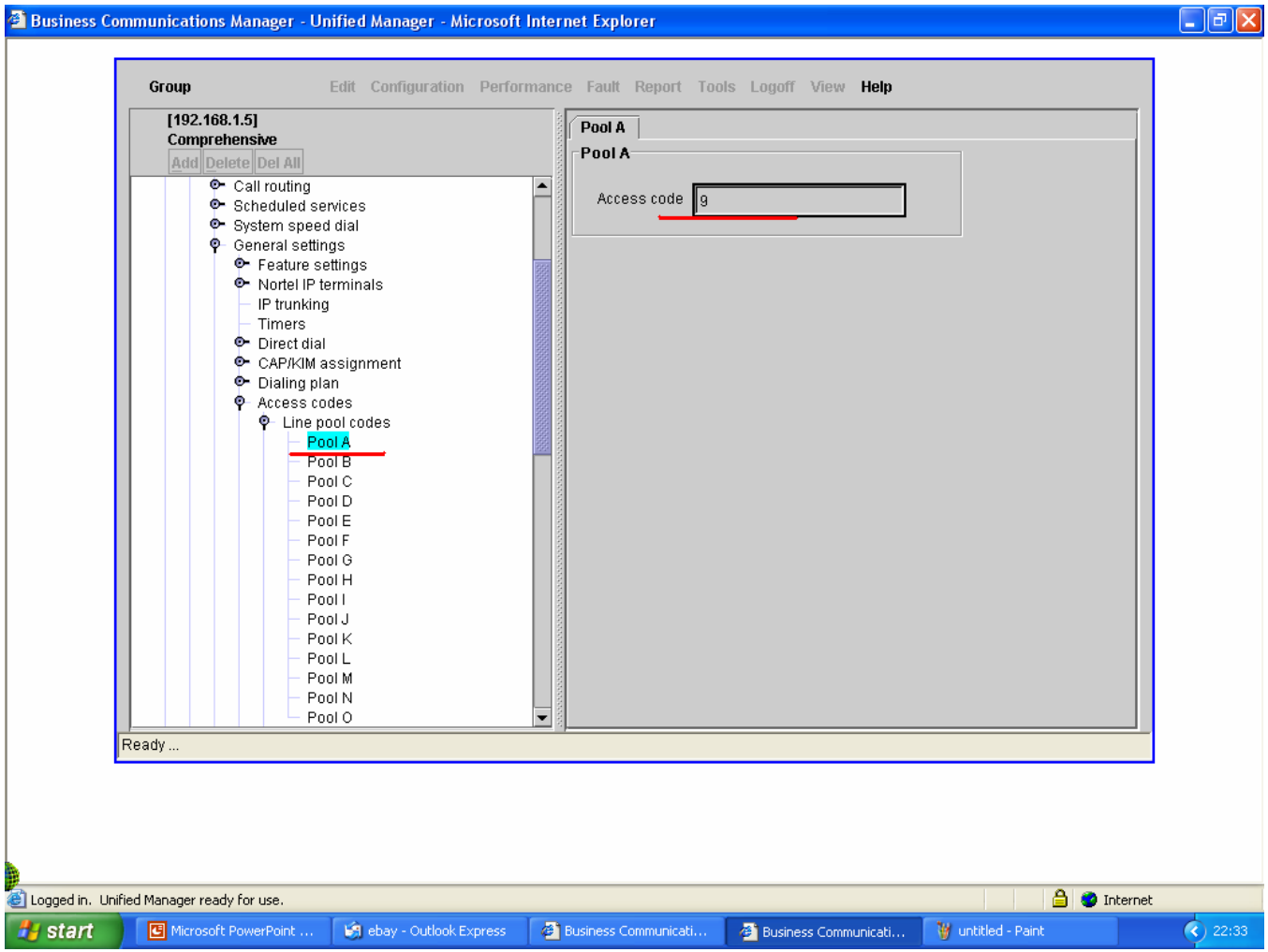
Accessing the BRI Group

- After you have created you line pool you need to give the extension access. Provided all your lines are in Pool A the system will operate



Why has this worked?

- The reason for this is simple all extension have access to pool A in default and dial 9 is associated with Pool A



How to setup DTM?

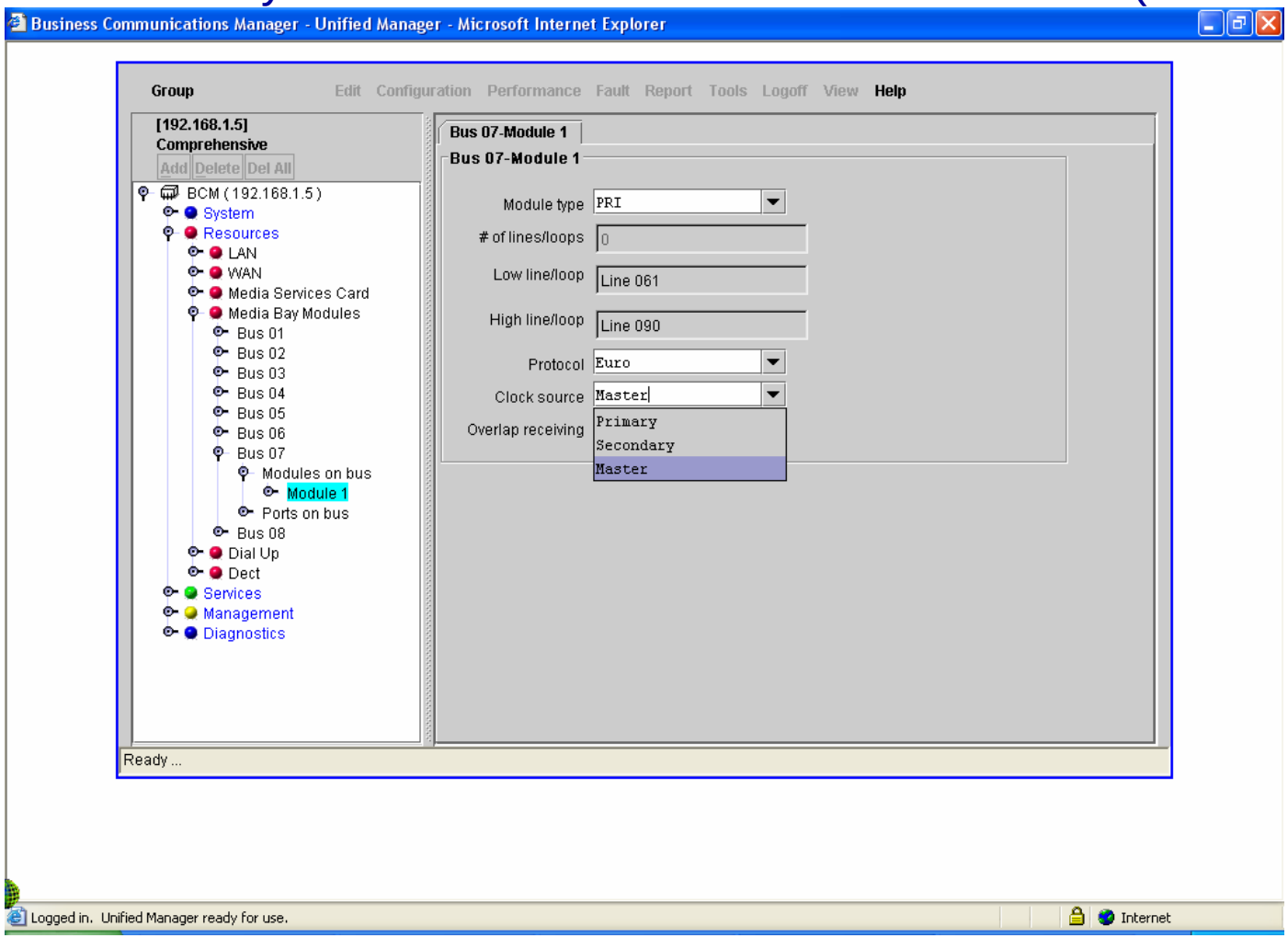
DTM Programming

How to setup PRI lines (DTM)

- After you have installed you DTM Media bay module and configured it in the BCM. You need to complete the programming to utilize the lines.
- The first step is to find out how many lines are being provided by the network provider.
- The next step is to remove all the other lines that are not being used
- Now you have the amount of lines being provided and the lines in a group. You know need to create access to the line group
- Once all of the above is completed you should now have a fully working ISDN30e circuit

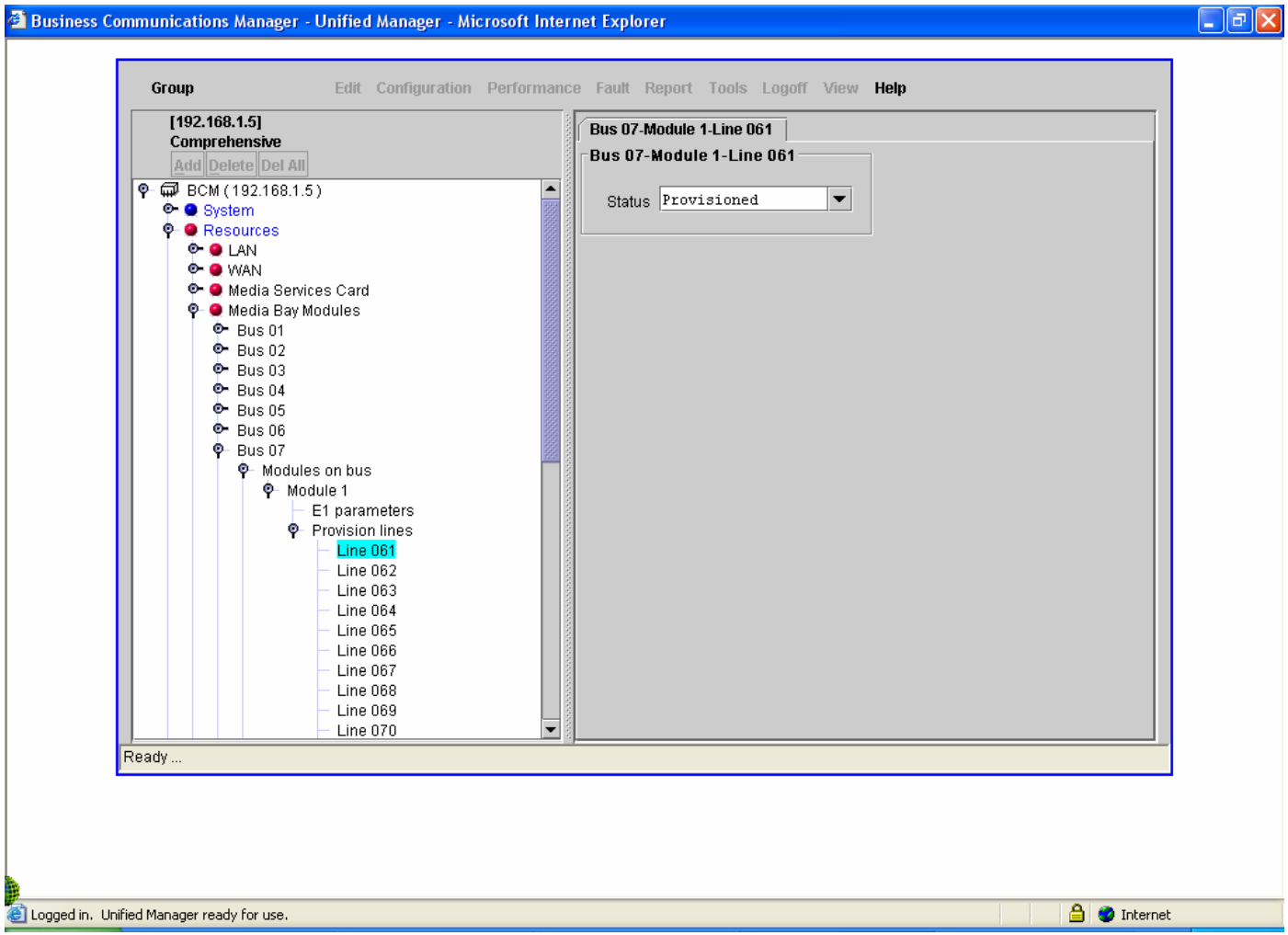
Removing the lines not provisioned by ?

- Choose resources Media bay modules
- Choose the Bus you have the DTM module installed on (switch settings)



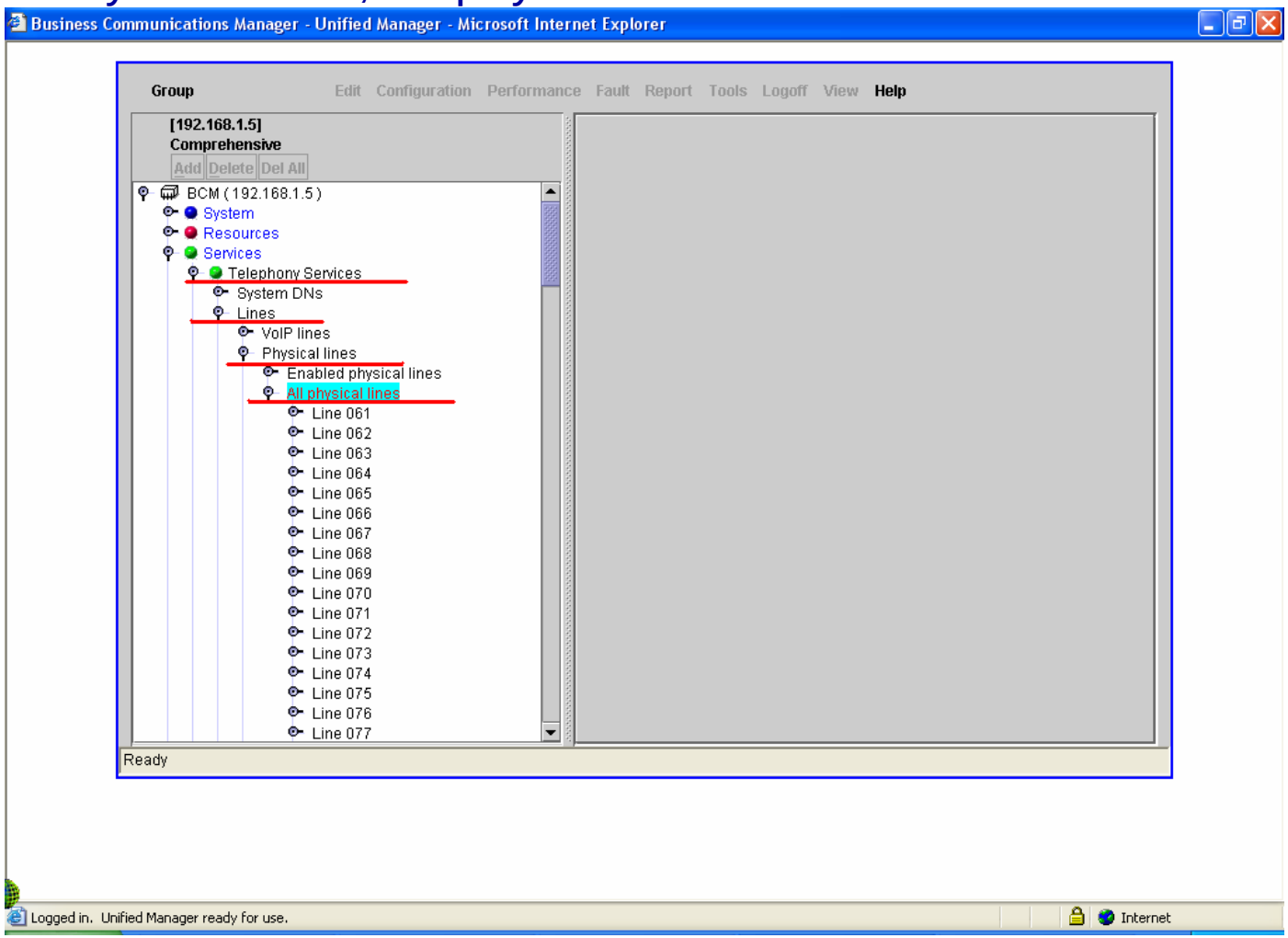
How to setup PRI lines (DTM)

- Expand module 1 on modules on bus heading
- Expand provisioned lines and disable the lines not required



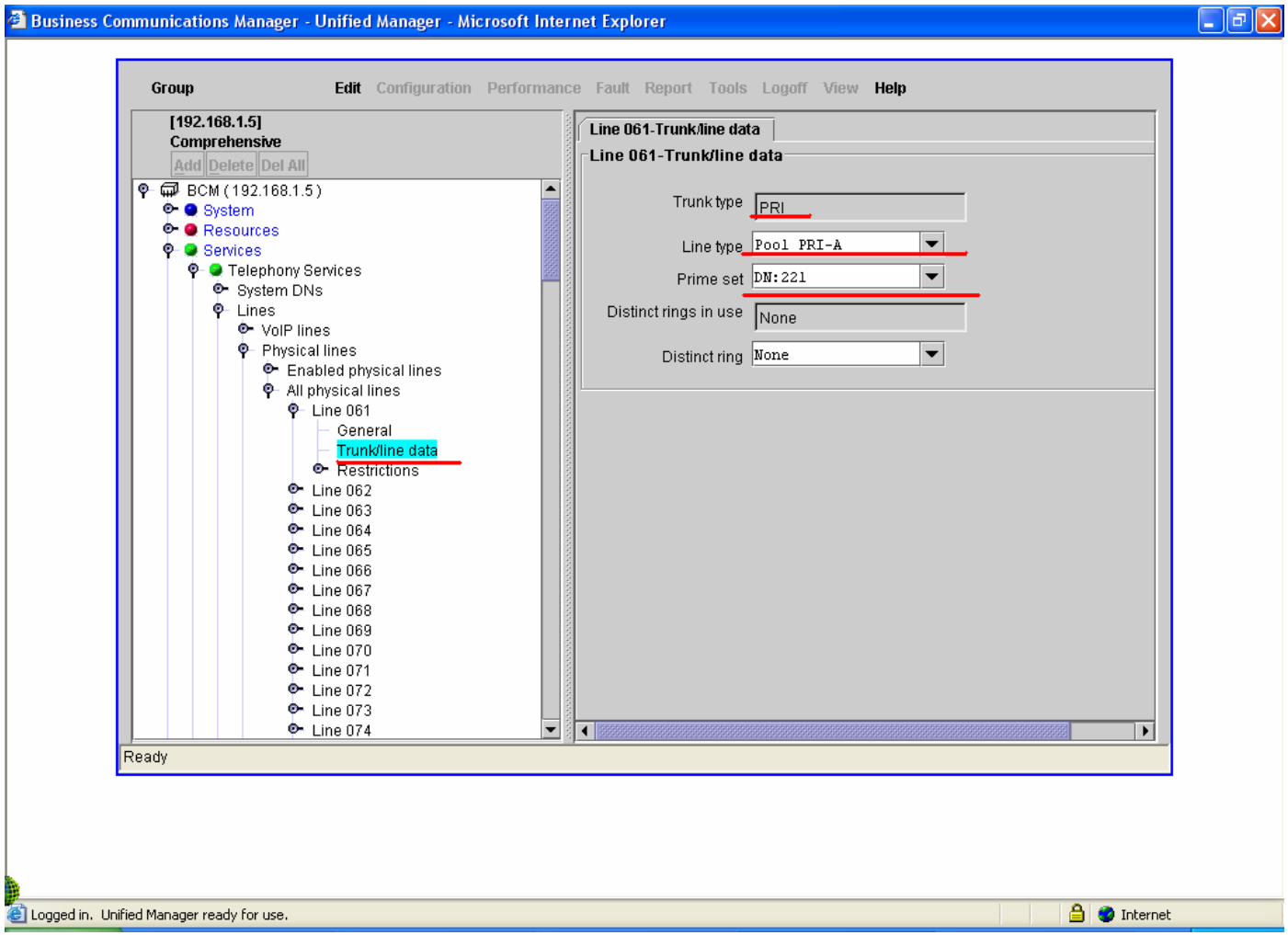
How to setup the PRI line Group

- Expand services, telephony services and then expand lines.
- Select Physical Lines, all physical lines



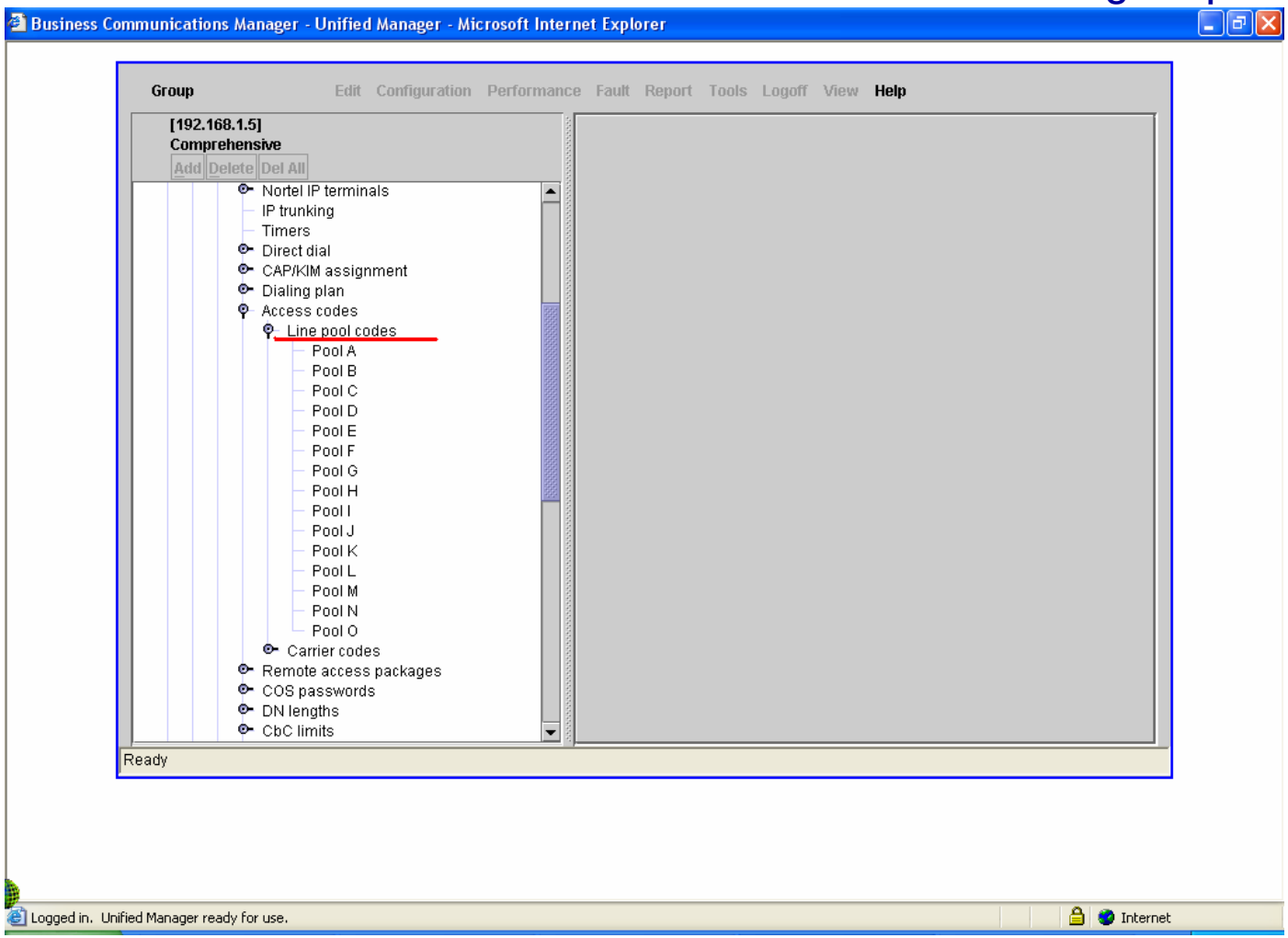
How to setup the PRI line Group

- Expand the first line and click on trunk/line data
- Select Line group, Prime DN etc



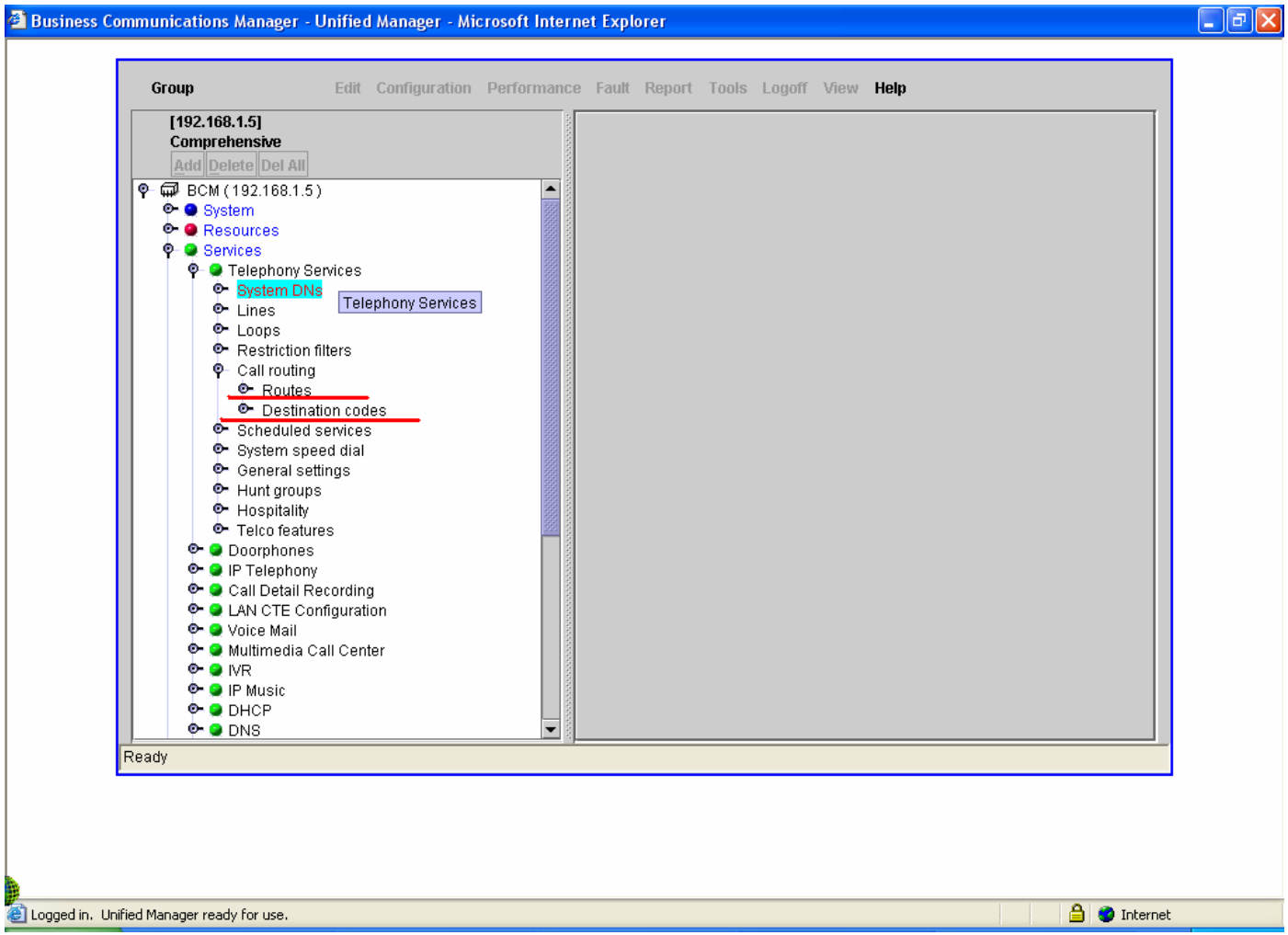
Accessing the PRI Group

- After you have created you line pool you need to give the extension access. But unlike the BRI lines there is no PRI-A line group



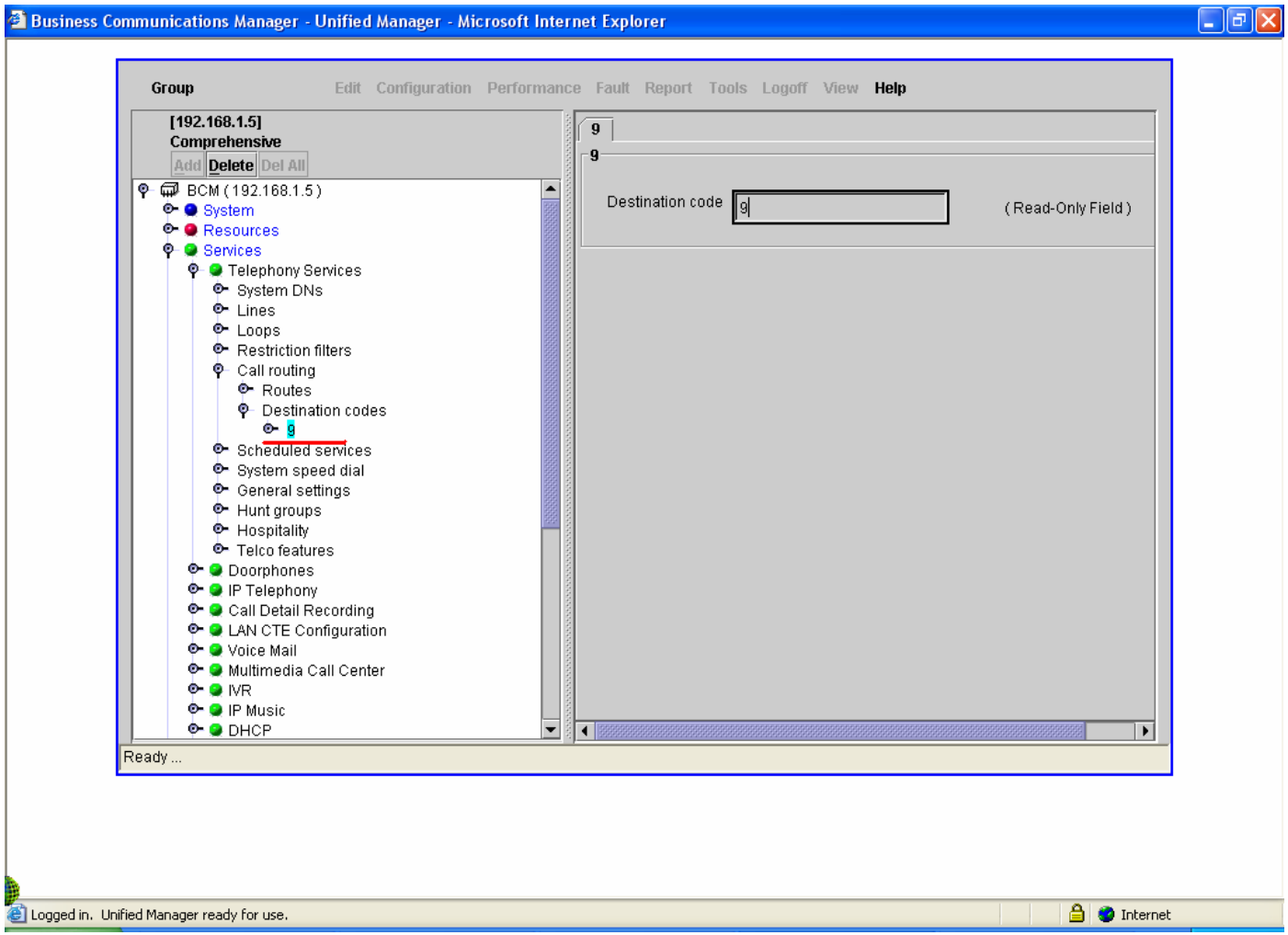
How do I access PRI Groups

- Call routing is the only way to give dial 9 access to a PRI group
- Expand Services, Telephony services, Call routing



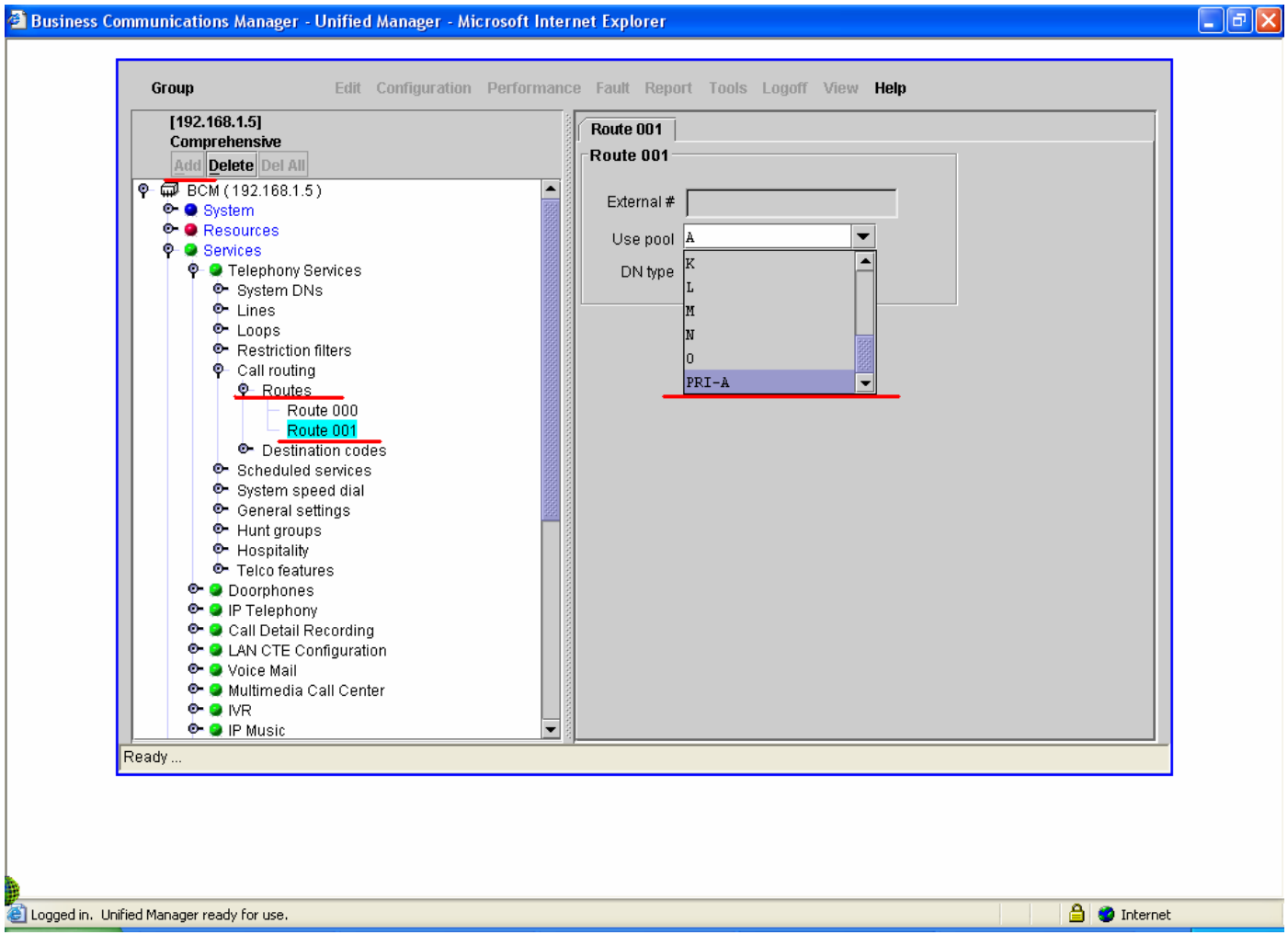
Accessing PRI groups

- Click on destinations codes.
- Add new number (9)



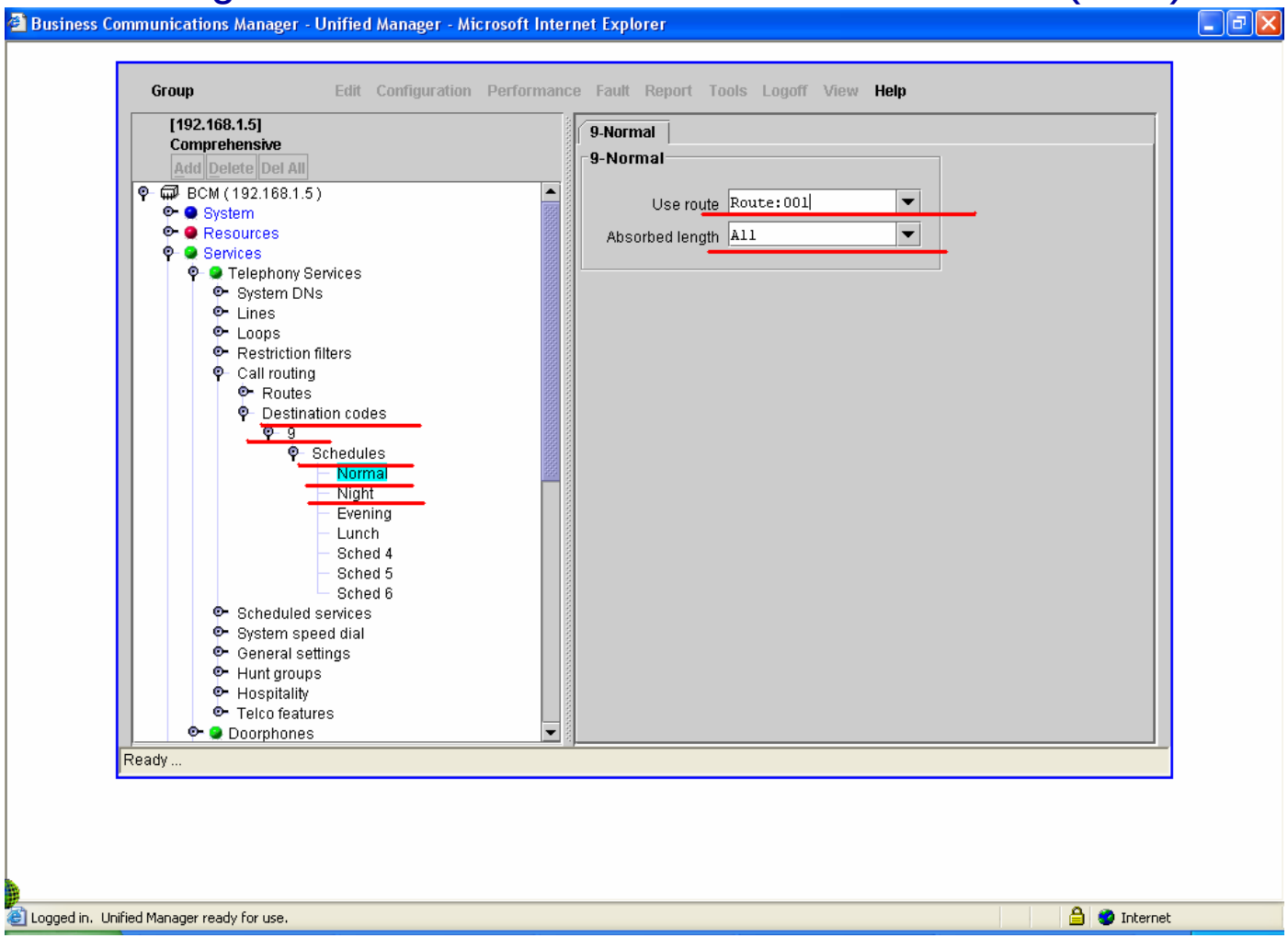
Accessing PRI groups

- Click on route add new route (001)
- Click Route 001 ,Under the new route select PRI-A as the line pool



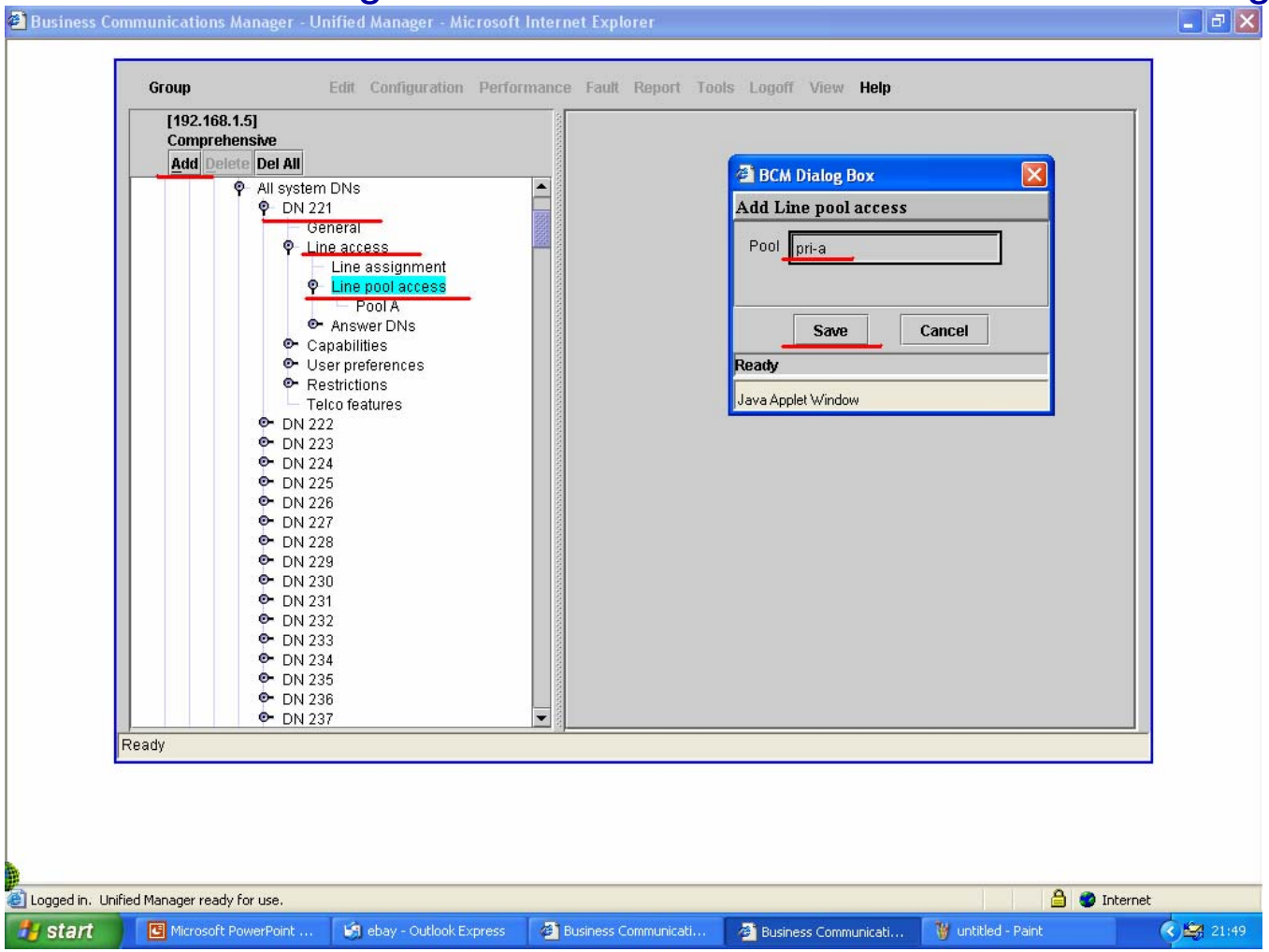
Accessing PRI groups

- We have created are destination code (9) and are Route. All we need to do now is assign that destination code to that route (001)



Line access for the DN

- We have created are dial 9 access.
- All we need to do is give the extension access to the PRI-A group



What are target lines and how do we use them?

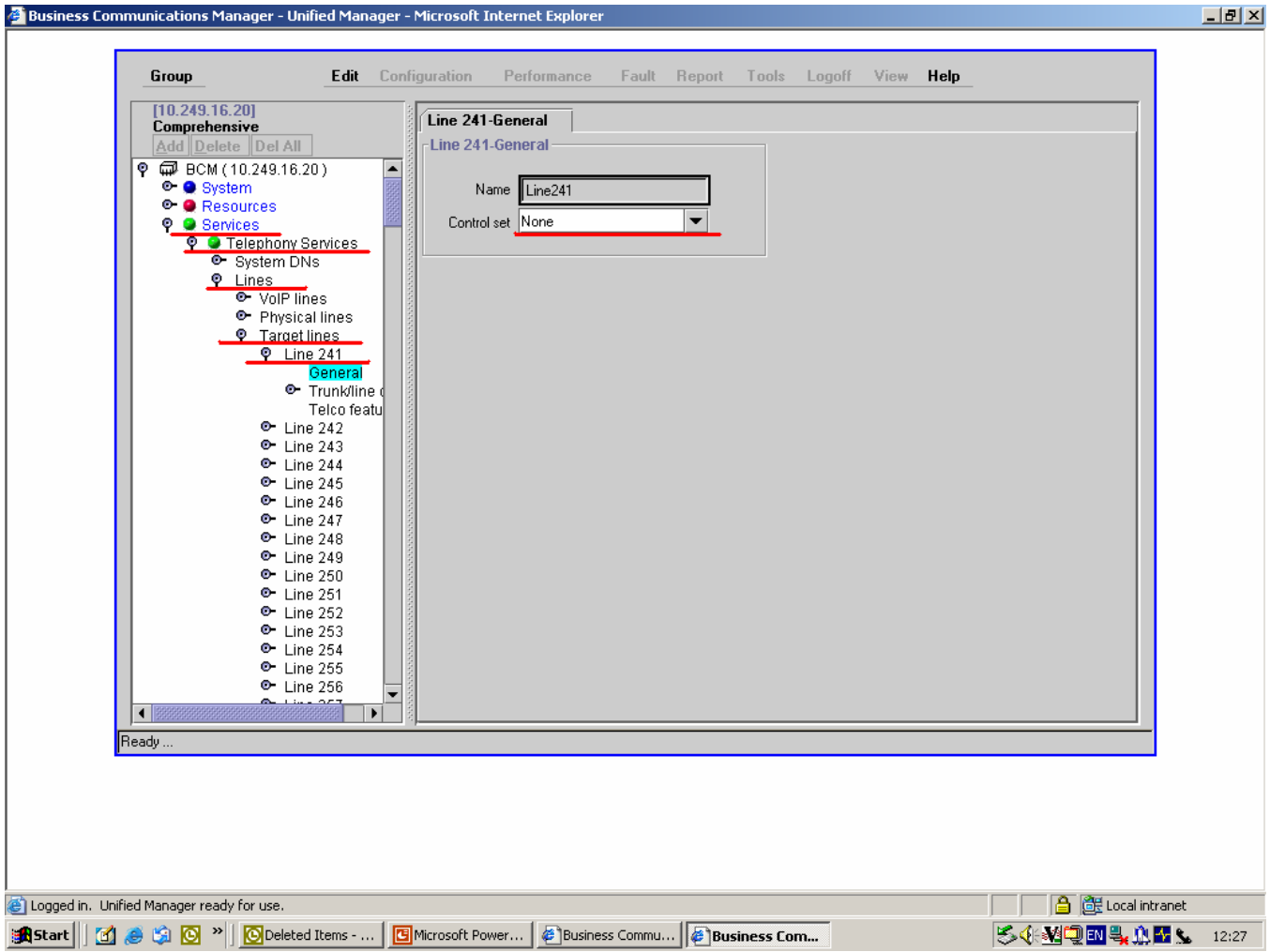
Target Line programming

What are target lines and how do we use them?

- The BCM uses target lines to associate the DDI number with the telephone Extension
- The BCM system uses the target line to translate the digits from the network.
- This target line is then associated to an extension. (Making the DDI ring at the correct extension,extensions or group)
- The target lines run from line 241 and finish at line 492
- An extension can have more than one target line associated to it.

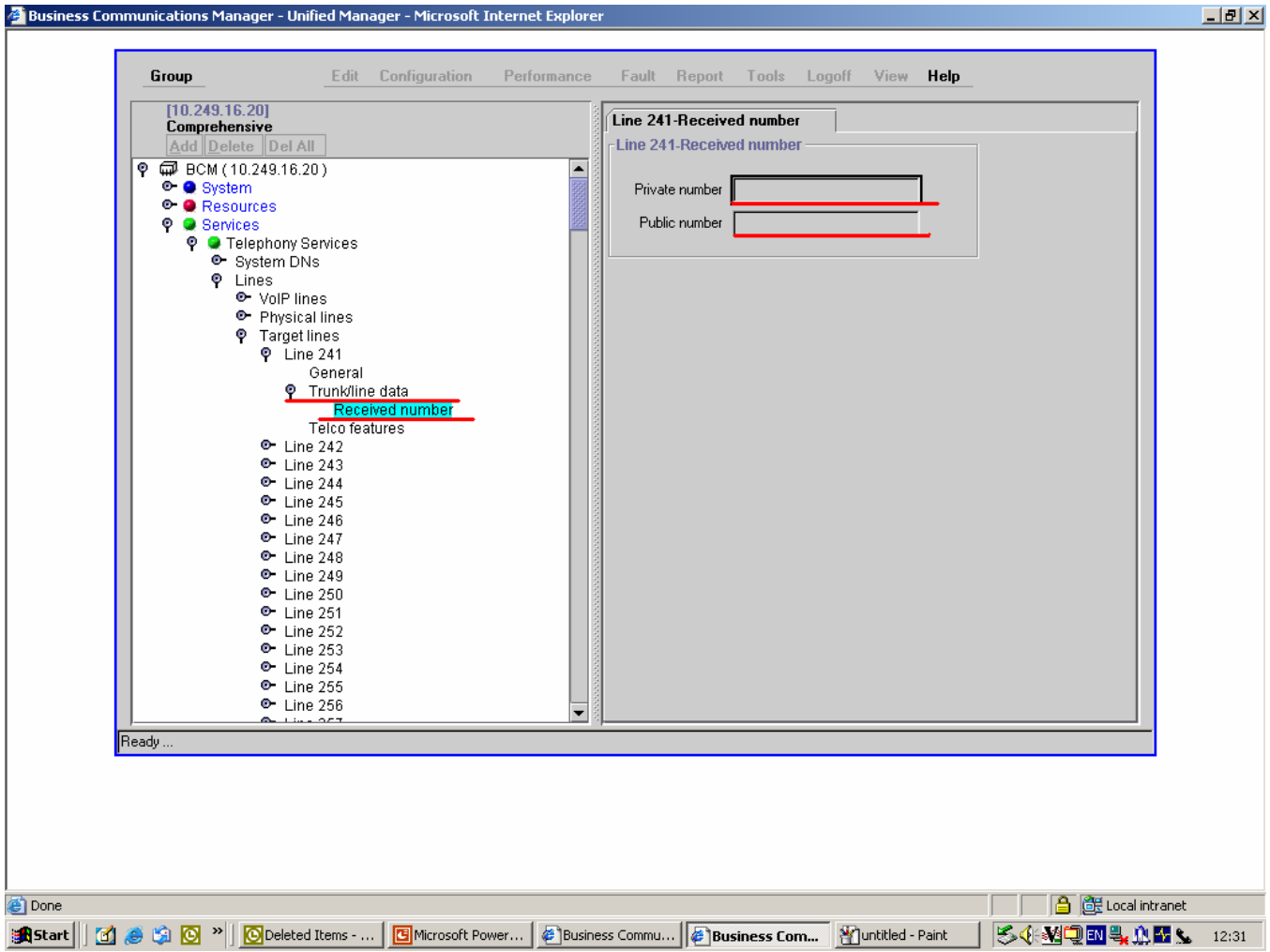
What are target lines and how do we use them?

- How?
- Click on services,telephony services, lines ,target lines



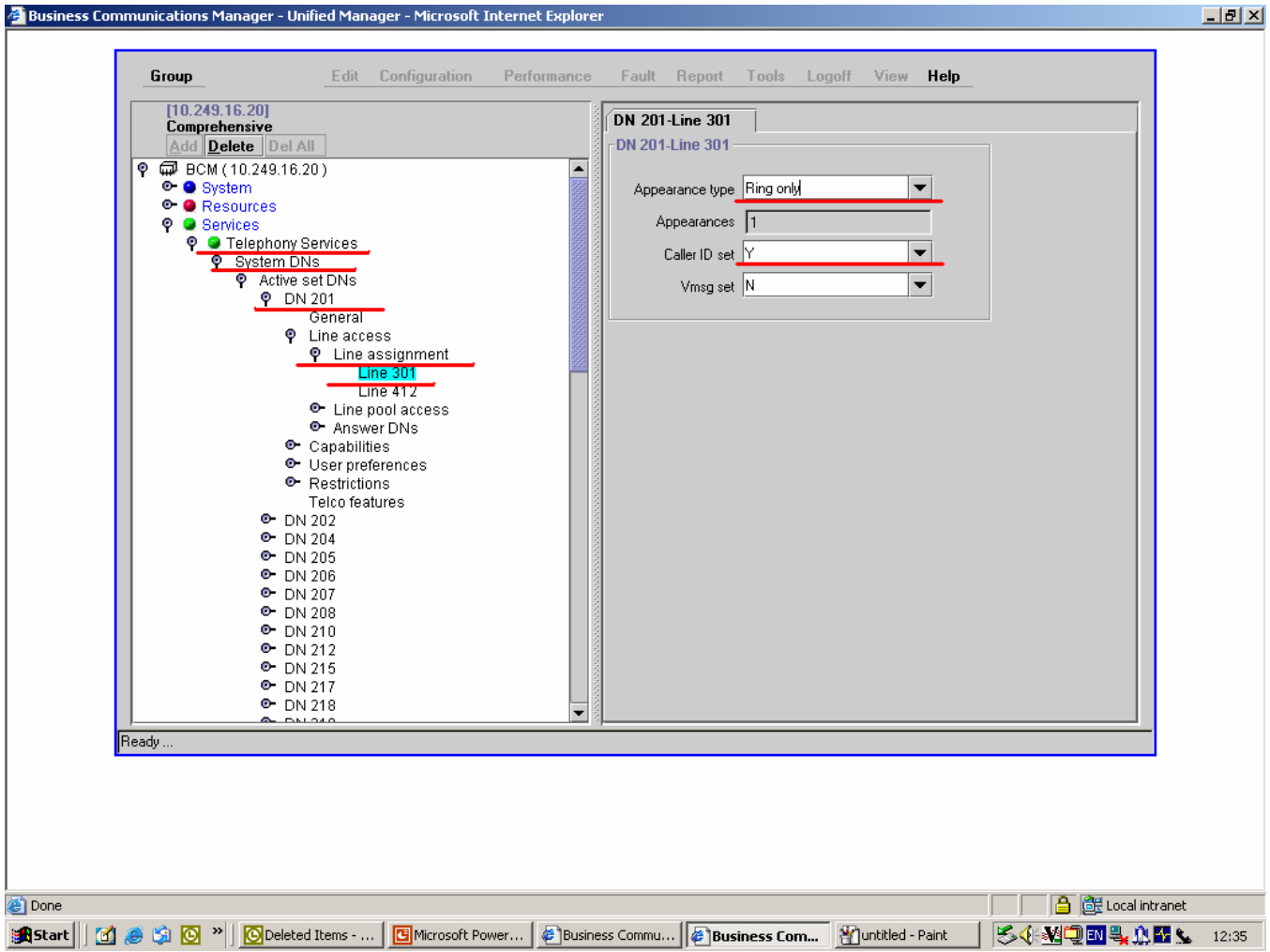
What are target lines and how do we use them?

- Expand a target line (241)
- Expand Trunk line Data, Received number



What are target lines and how do we use them?

- The target line is programmed now all we need to do is associate this target line to an extension



How to program a target line?

- Program DDI number to target Line

- Expand services, telephony services, lines,target lines
- Select the target line you want to program
- Expand target line
- Expand trunk line data and select received number
- Enter DDI number in public number

- Associate target line to extension

- Expand services,telephony services, system DNs ,active set DNs,
- Select extension (221) expand ext 221
- Expand Line access
- Expand Line assignment
- Add target line (241)
- Target line programmed

Key Phones ?

T series Telephones

Key Phones?

- The BCM just like all key systems has its own propriety telephones. The new series of handsets are known as the T series and the pervious version where the M series (norstar). The BCM system is backwards compatible.

- The key system limitations are as follows

- Maximum distance from BCM system 305 Mtrs without saps unit

- Maximum distance with saps unit 800 Mtrs

Key Phone Programming

- Under this parameter you will find a few sections.

General

This is where you will find the general information about the phone, name type and port number.

Line access

This is exactly as it says this is where you find the extension line access, line assignment etc.

Capabilities

Some systems would associate this as the extensions class of service (Meridian). But this what the extension can and can not do things like call forward DND silent monitor intrude etc.

Key Phone Programming

User preferences

User preferences is the basic functions of the handset. Default contrast, ring tone dialing preferences etc.

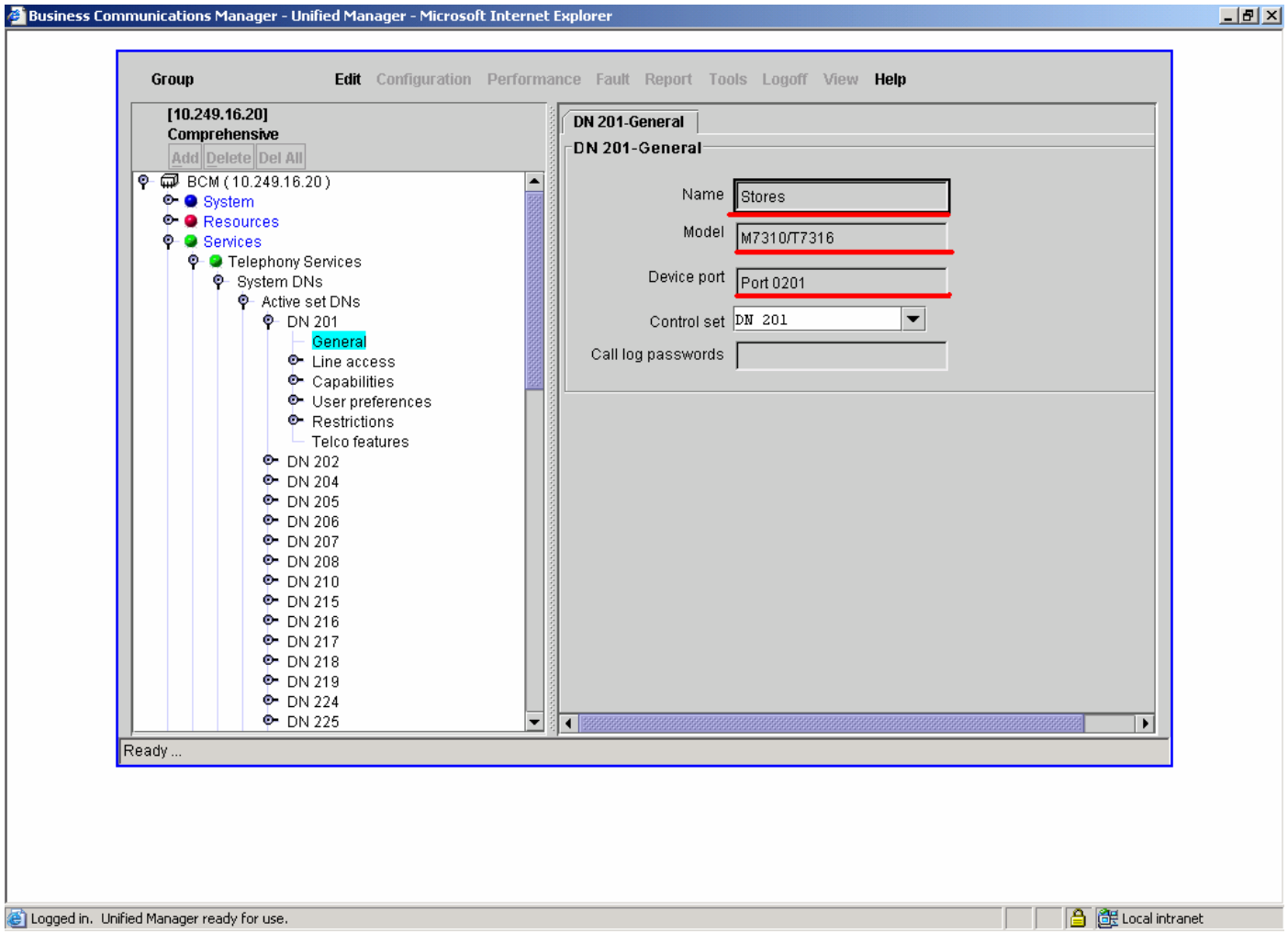
Restrictions

Call barring

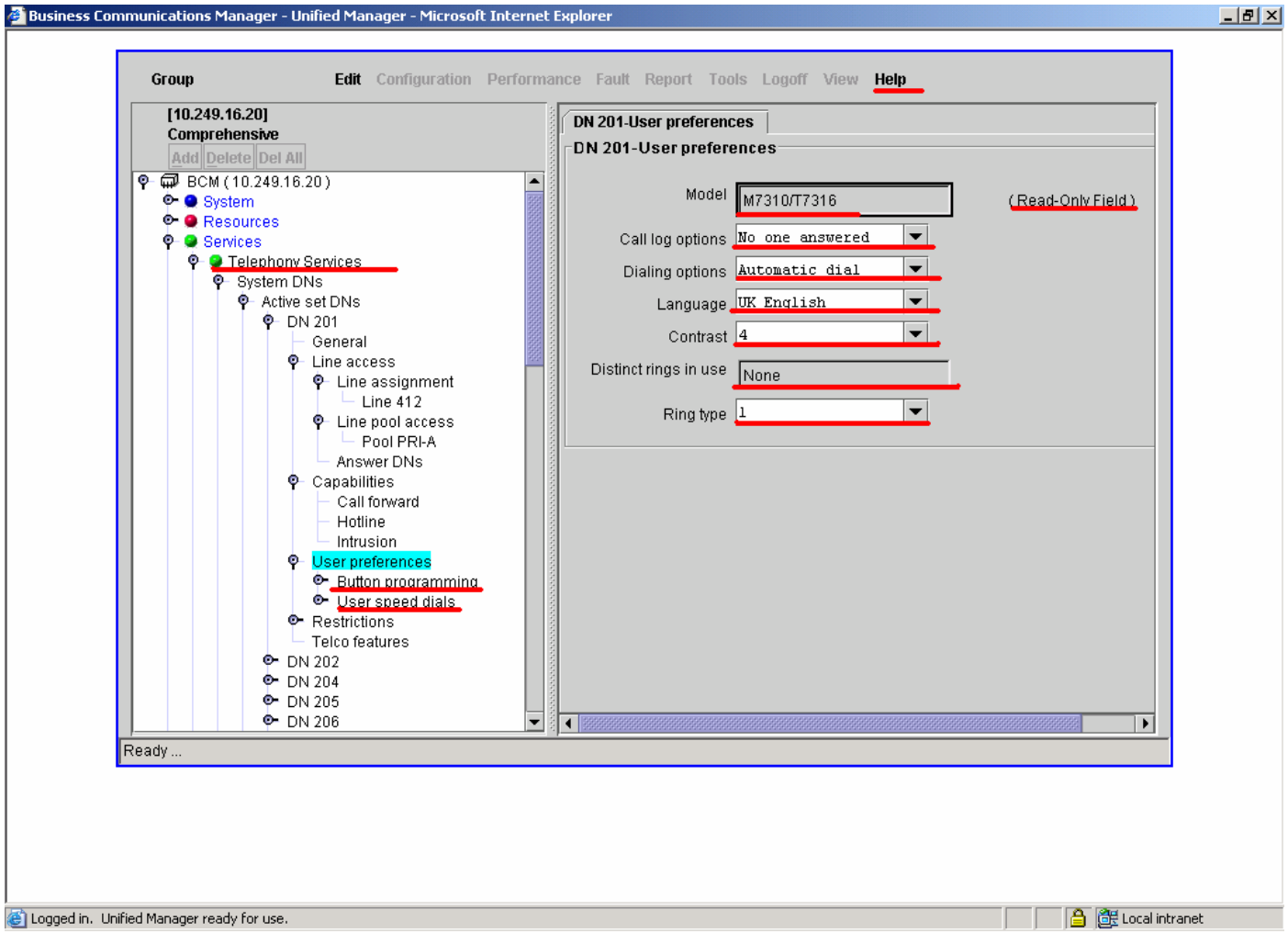
Telco Features

Do not worry about Telco features this is related to how the BCM displays names to the extension if alpha tagging is in place and call logging labels.

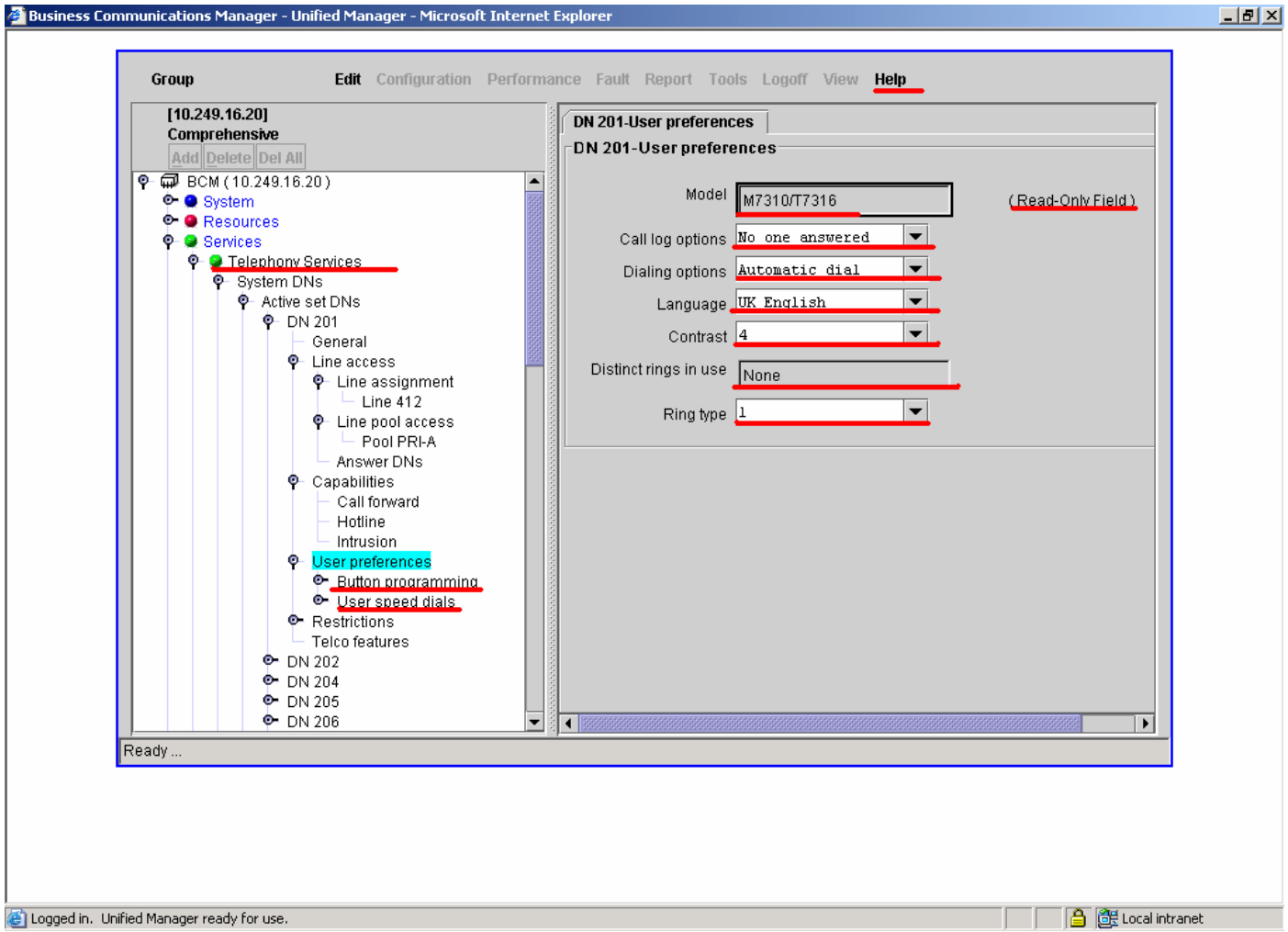
DN General


Business Communications Manager - Unified Manager - Microsoft Internet Explorer
Group
Edit
Configuration
Performance
Fault
Report
Tools
Logoff
View
Help
[10.249.16.20]
Comprehensive
Add
Delete
Del All
BCM (10.249.16.20)
System
Resources
Services
Telephony Services
System DNs
Active set DNs
DN 201
General
Line access
Capabilities
User preferences
Restrictions
Telco features
DN 202
DN 204
DN 205
DN 206
DN 207
DN 208
DN 210
DN 215
DN 216
DN 217
DN 218
DN 219
DN 224
DN 225
DN 201-General
DN 201-General
Name
Stores
Model
M7310/T7316
Device port
Port 0201
Control set
DN 201
Call log passwords
Ready ...
Logged in. Unified Manager ready for use.
Local intranet

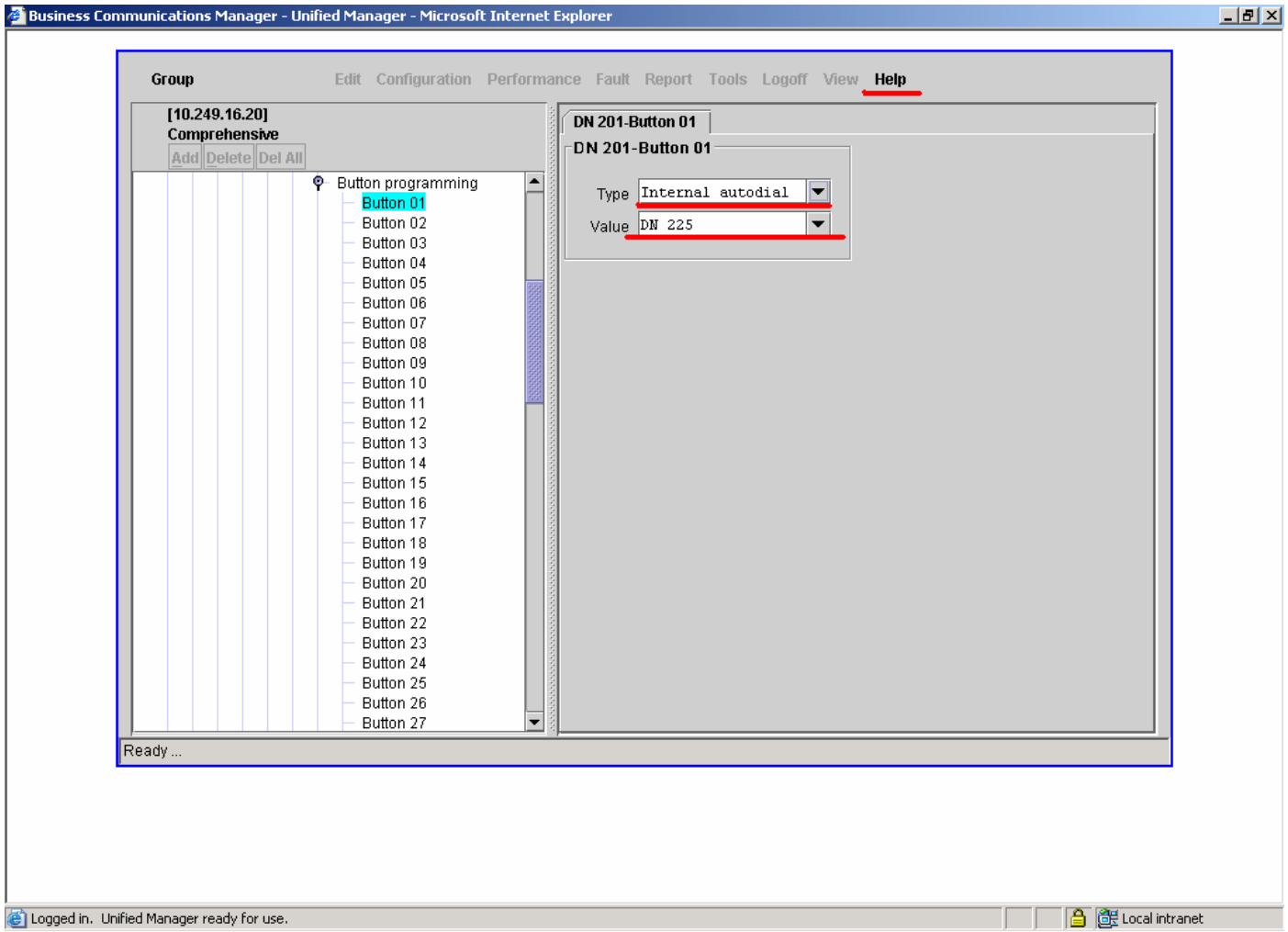
DN Capabilities



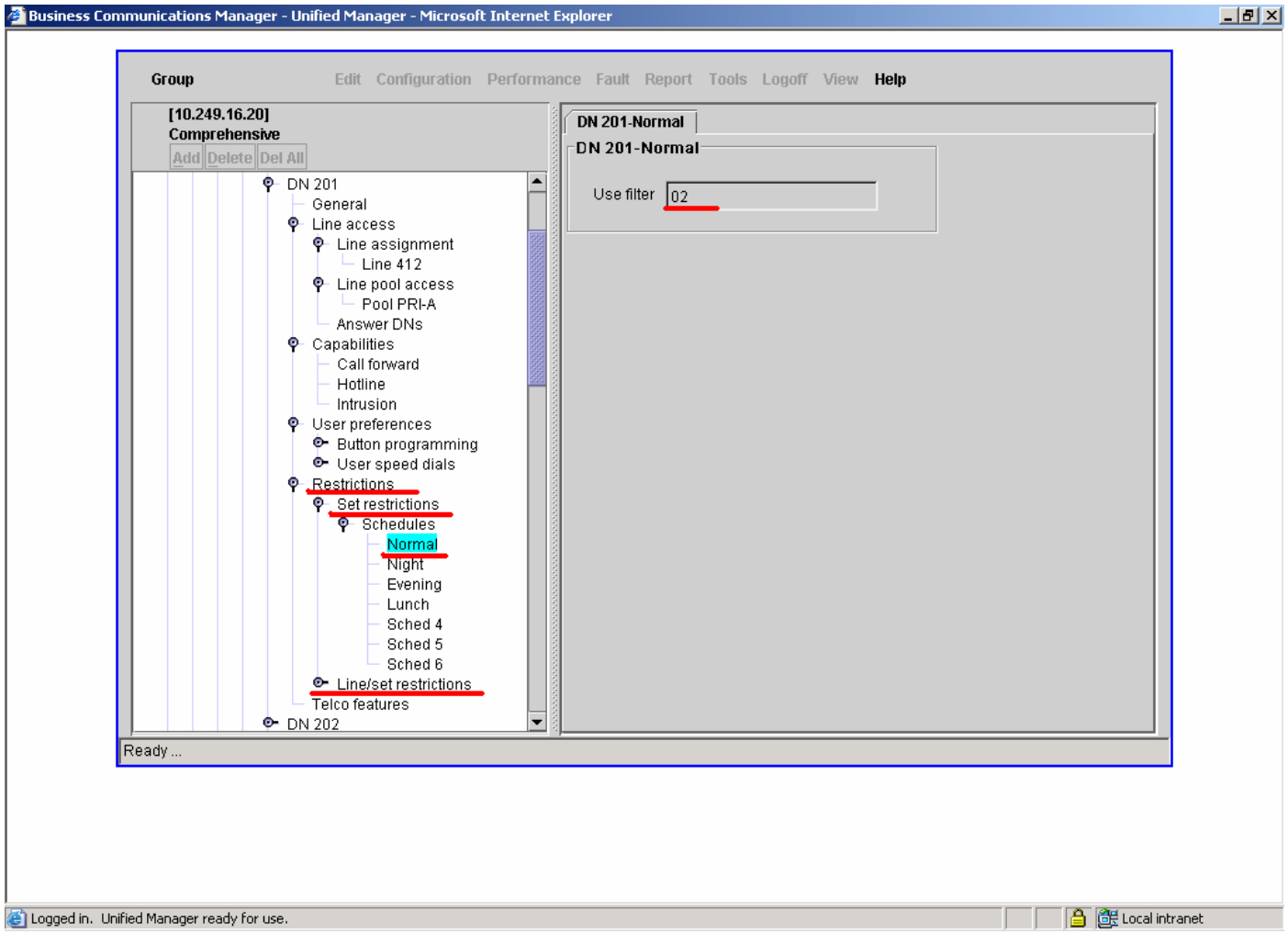
DN User Preferences



DN Buttons


Business Communications Manager - Unified Manager - Microsoft Internet Explorer
Group
Edit Configuration Performance Fault Report Tools Logoff View Help
[10.249.16.20]
Comprehensive
Add Delete Del All
Button programming
Button 01
Button 02
Button 03
Button 04
Button 05
Button 06
Button 07
Button 08
Button 09
Button 10
Button 11
Button 12
Button 13
Button 14
Button 15
Button 16
Button 17
Button 18
Button 19
Button 20
Button 21
Button 22
Button 23
Button 24
Button 25
Button 26
Button 27
DN 201-Button 01
DN 201-Button 01
Type Internal autodial
Value DN 225
Ready ...
Logged in. Unified Manager ready for use.
Local intranet

DN Restrictions



IP Phones ?

IP Telephones

IP Phones?

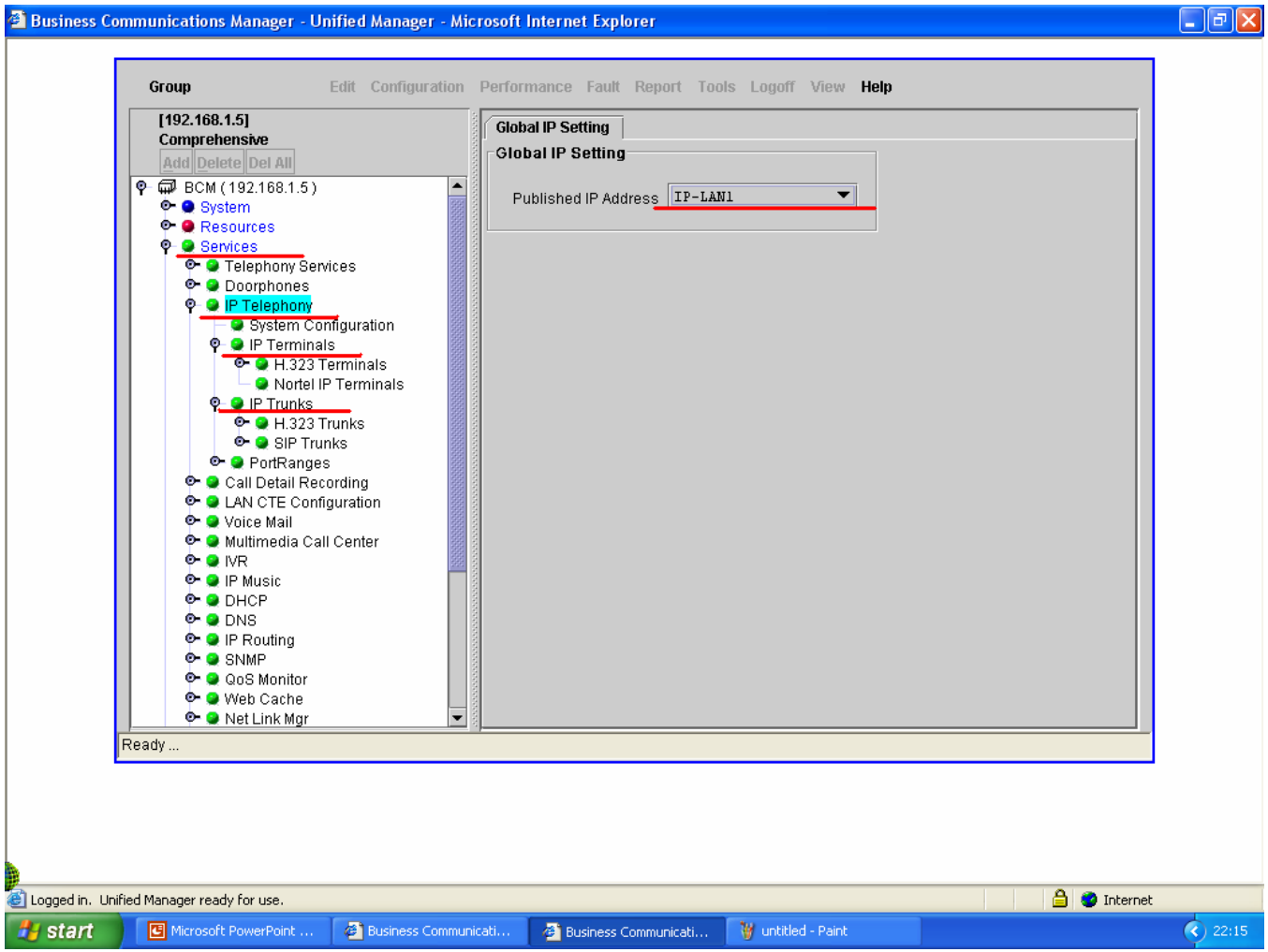
- The BCM can have up to 90 IP phones depending on the DS30 split and the key codes.
- The BCM uses its in built router and unistim server to provide IP functionality. It requires no third party hardware to facility VOIP trunks or terminals.It can interact with a gatekeeper on a LAN.It uses the following codecs G711,G729,G729+VAD,G723(5.1k or 6.1k) and G723+VAD
- The IP Phone,trunk or h323 device connects to the published IP address of the BCM (default LAN 1)

IP Phone Programming

- The BCM supports the H323 protocol suite so in theory should support any IP phone complying to these standards.
- But we well be using Nortel propriety IP phones.
- Ok we have established we will be using Nortel IP Phones. How do we register the handsets?
- We need to determine what IP address the phone needs to connect to for registration
- The IP address the IP phone connects to is the public IP address on the BCM (Default LAN 1) This could be LAN 2 or even Wan 1 depends on the setup.
- We now know where to connect now what?

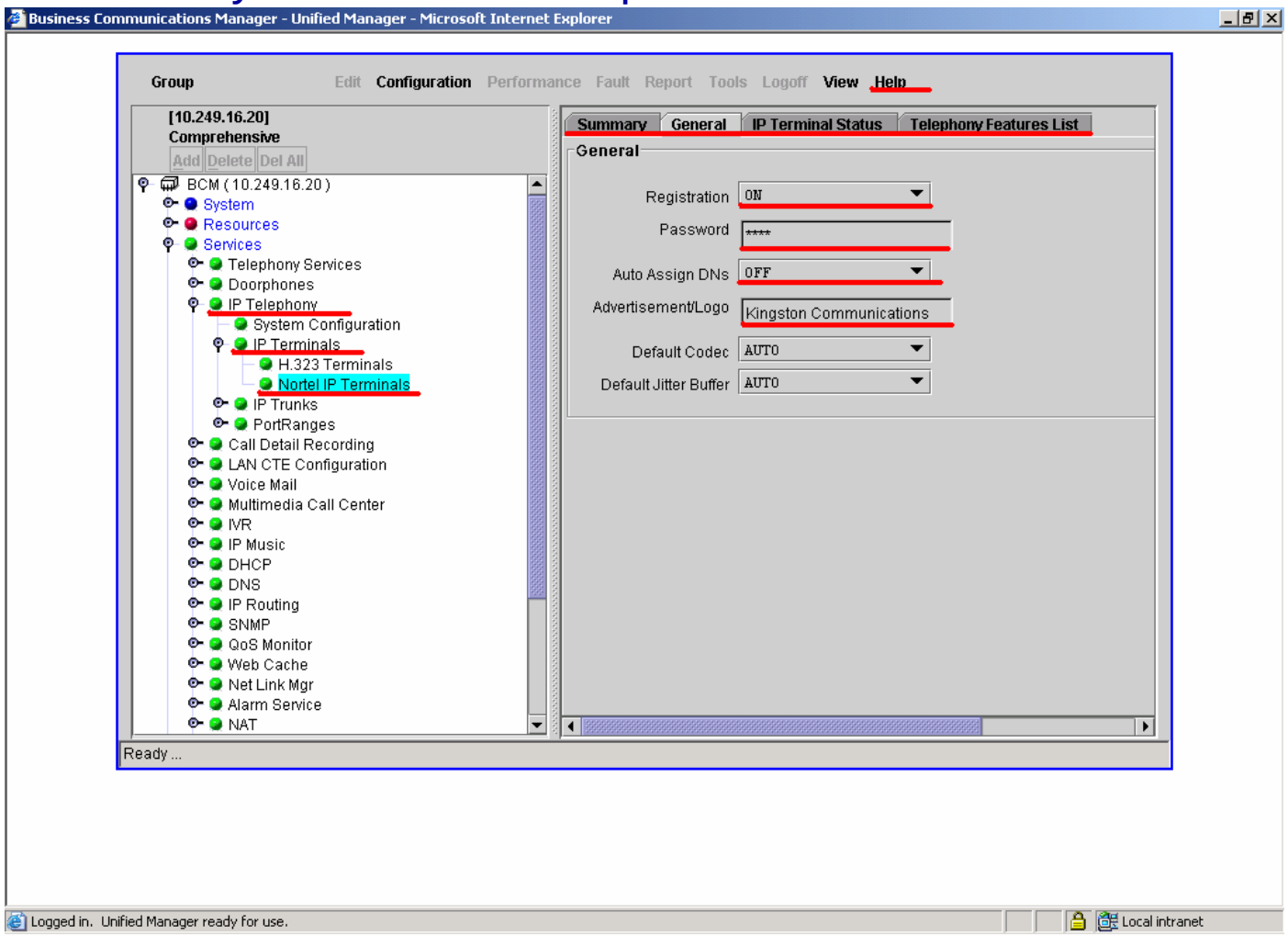
IP Phone Programming

- The programming for the IP phones or IP trunks can be found under Services,IP telephony,



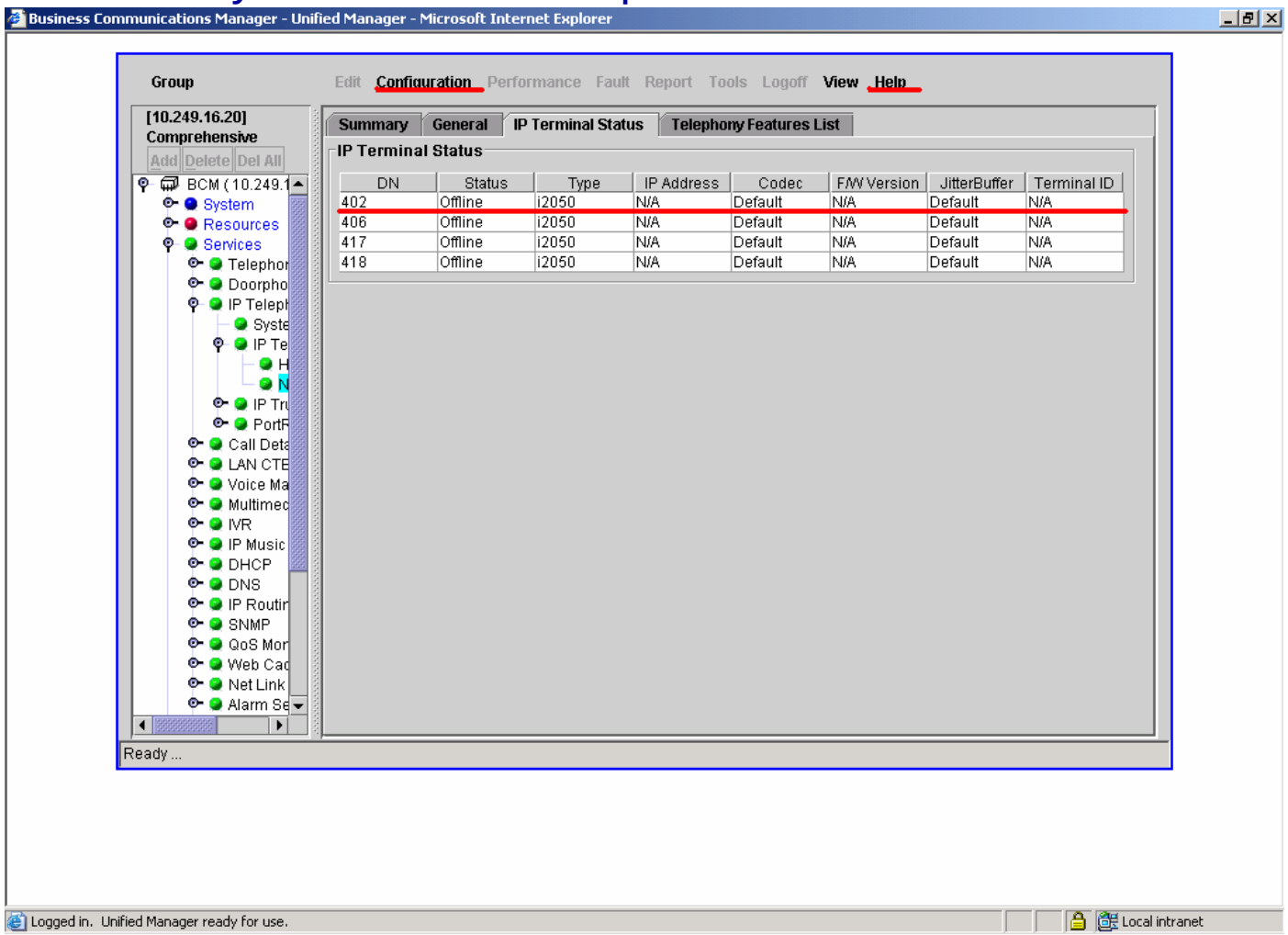
IP Phone Programming

- Click on Services, IP Telephony, IP Terminals, Nortel IP terminals. Under this tab you will see the options below



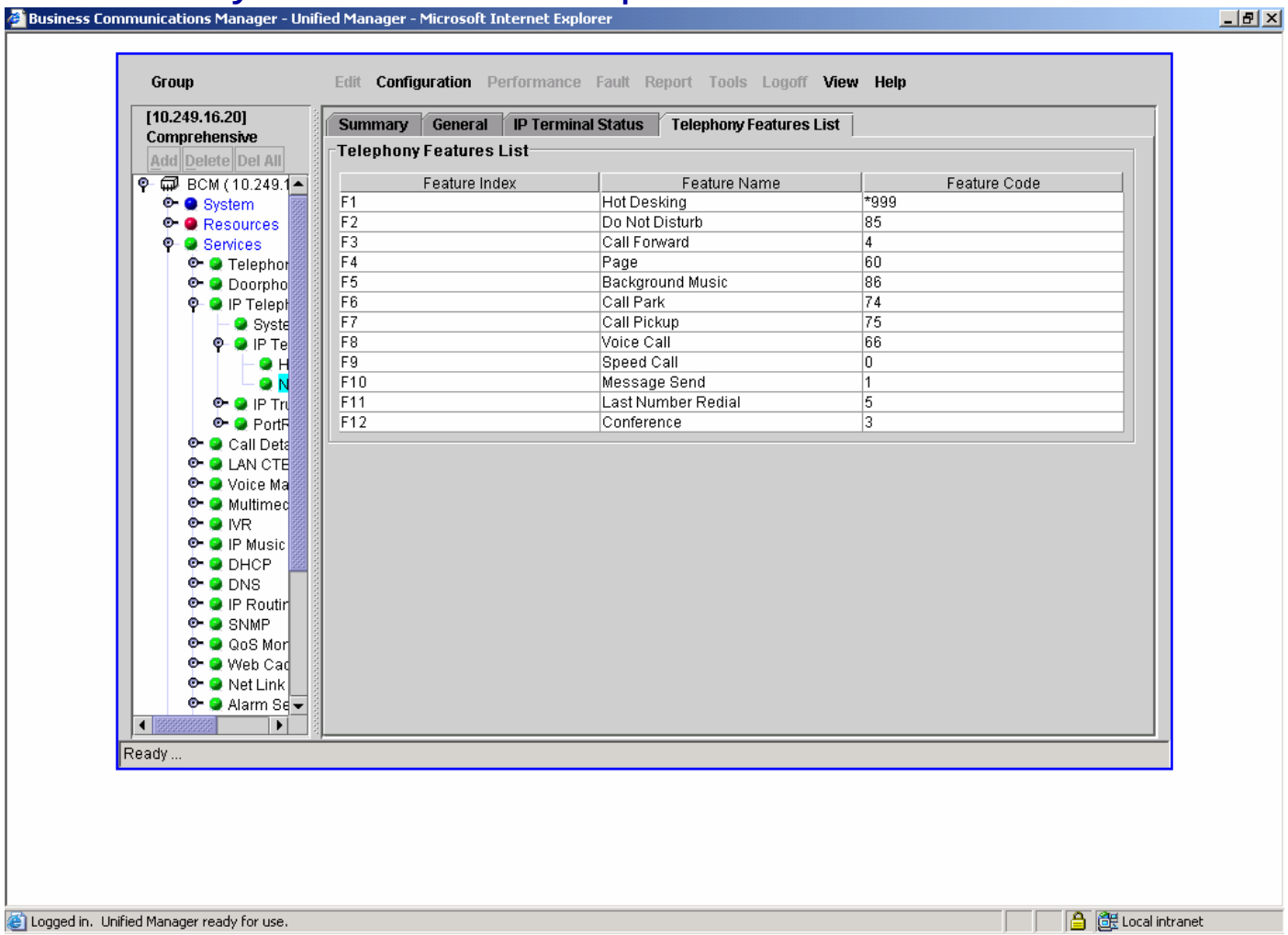
IP Phone Programming

- Click on Services, IP Telephony, IP Terminals, Nortel IP terminals. Under this tab you will see the options below



IP Phone Programming

- Click on Services, IP Telephony, IP Terminals, Nortel IP terminals. Under this tab you will see the options below



IP Phone Programming

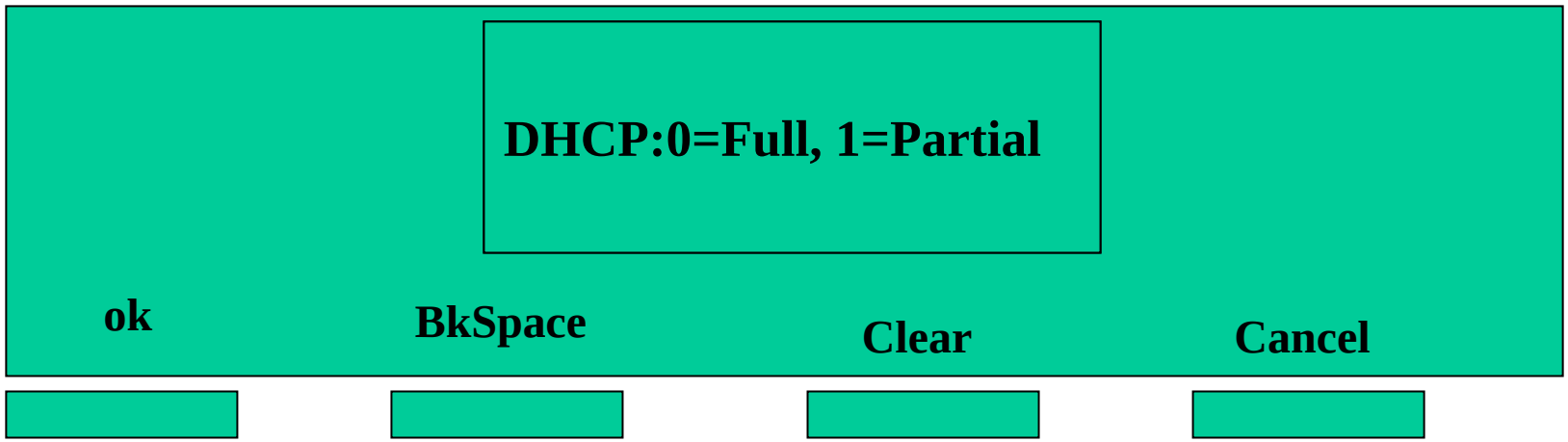
- The BCM has a built in DHCP (Dynamic Host Control Protocol) server and this will allocate the IP address for the IP phone as well as IP devices (I.e P.C)

- You will find this Tab under services,DHCP. You need to decide if your BCM will be the DHCP server or will it be a windows server on the customer network. For the lab exercise we will be using the BCM as the DHCP.

- We have established that the BCM will be the DHCP how do we configure the IP phones.

- To access the configuration menu on the Nortel Handsets we need to restart the phone by cycling the power. When the screen flashes and displays Nortel Networks press the buttons below the screen starting form left to right one at a time.

IP Phone Programming



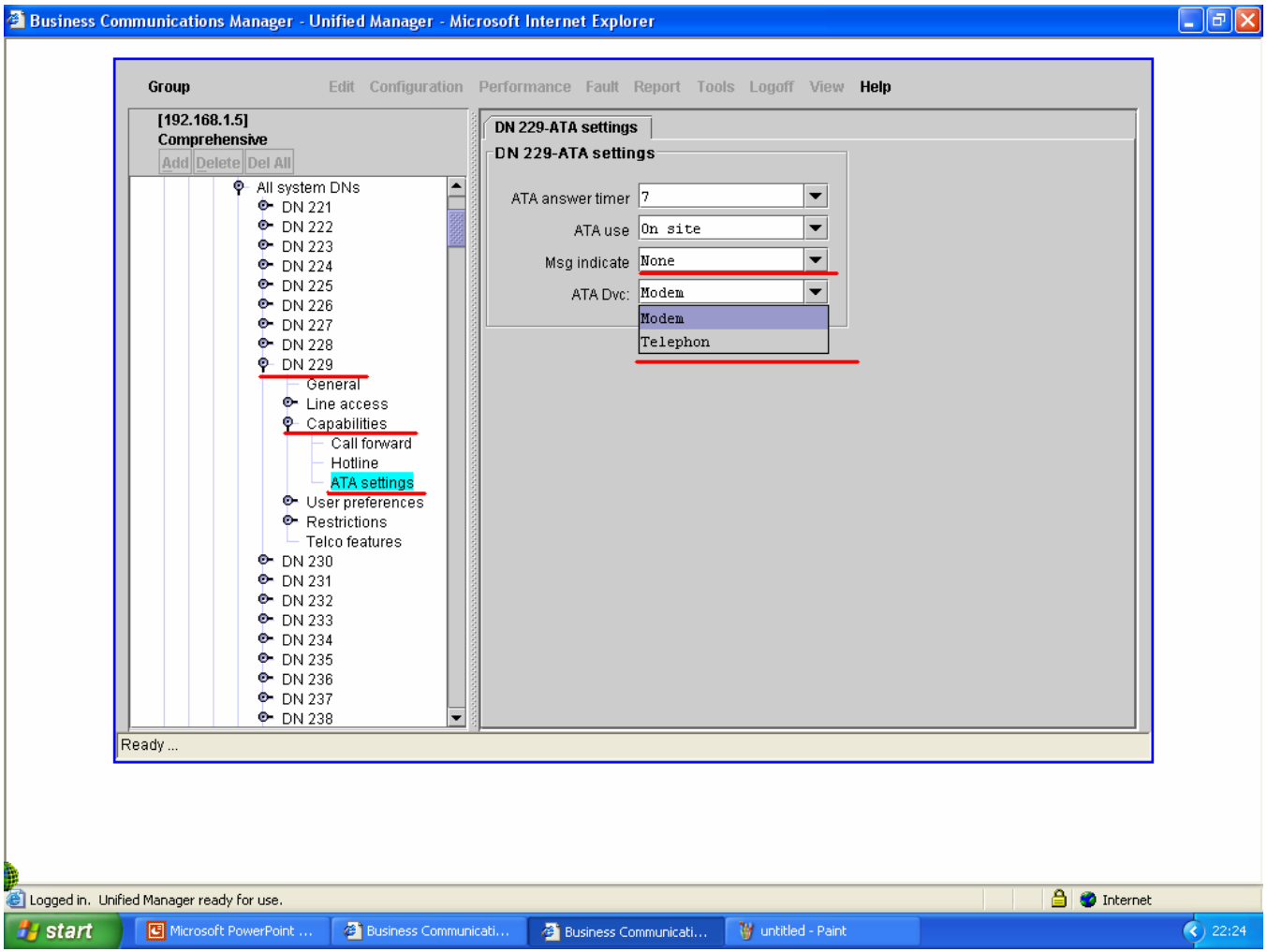
- If you have done this correctly you should see the screen saying DHCP and then configuration options
- Press 1 for DHCP Press OK
- Press 0 for full this will mean that all the info will be downloaded from the BCM

ATA2

ATA2

ATA2 install

- The BCM requires an ATA to run an analogue device on a digital extension. (fax modem)



Exercise 2

- Configure system so all extensions can dial out (dial 9 access)
- Program all extensions to have DDI (ring only)
- Install IP phone (extension ?, G711 codec)
- Install all other handsets
- All extensions to ring on main number
- Install ATA on last extension on system and configure as modem

Exercise 2

BCM A
DDI Range 90342000-90342999
BCM B
DDI Range 90343000-90343999
BCM C
DDI Range 90344000-90344999
BCM A
Main number 90342222
BCM B
Main number 90343333
BCM C
Main Number 90344444
DDI Range to match extension Range
Example(DDI 90342000-Ext 2000)

Main phone to have all extensions Presented on DSS BLF keys
Also have the following functions Keys.
Call forward,Call pick up,Directed Pickup, Page, speed dial,Voicecall Conference,DND,Redial and call park.
All extensions to have call Forward external facility
Main extension to have ability to Force calls threw to extensions
Customer wants a courtesy phone that rings operator on pick up.
All extensions to have transfer key

Day 3

- Hunt groups
- Scheduled Services
- Restriction Filters
- Installing Call pilot
- Adding mailboxes
- Overview call pilot (CCR AA)
- Call pilot system settings
- Call pilot restart and reset
- Exercise 3

BCM Hunt Groups

The BCM system has three types of hunt groups

- Broadcast (all phones ring at the same time)
- Linear (Starts and the same extension and then hunts)
- Rotary (Starts at the next extension in the group for each call)

This are configured under services telephony services hunt groups.

Each extension on the system can be assigned to more than one hunt group, But a hunt group can not be assigned to another hunt group.

BCM restrictions

The BCM uses a restriction filter to apply call baring to an extension or a line.

The BCM system can have up to 100 restriction filters. The maximum restriction filters and overrides combined cannot exceed 400.

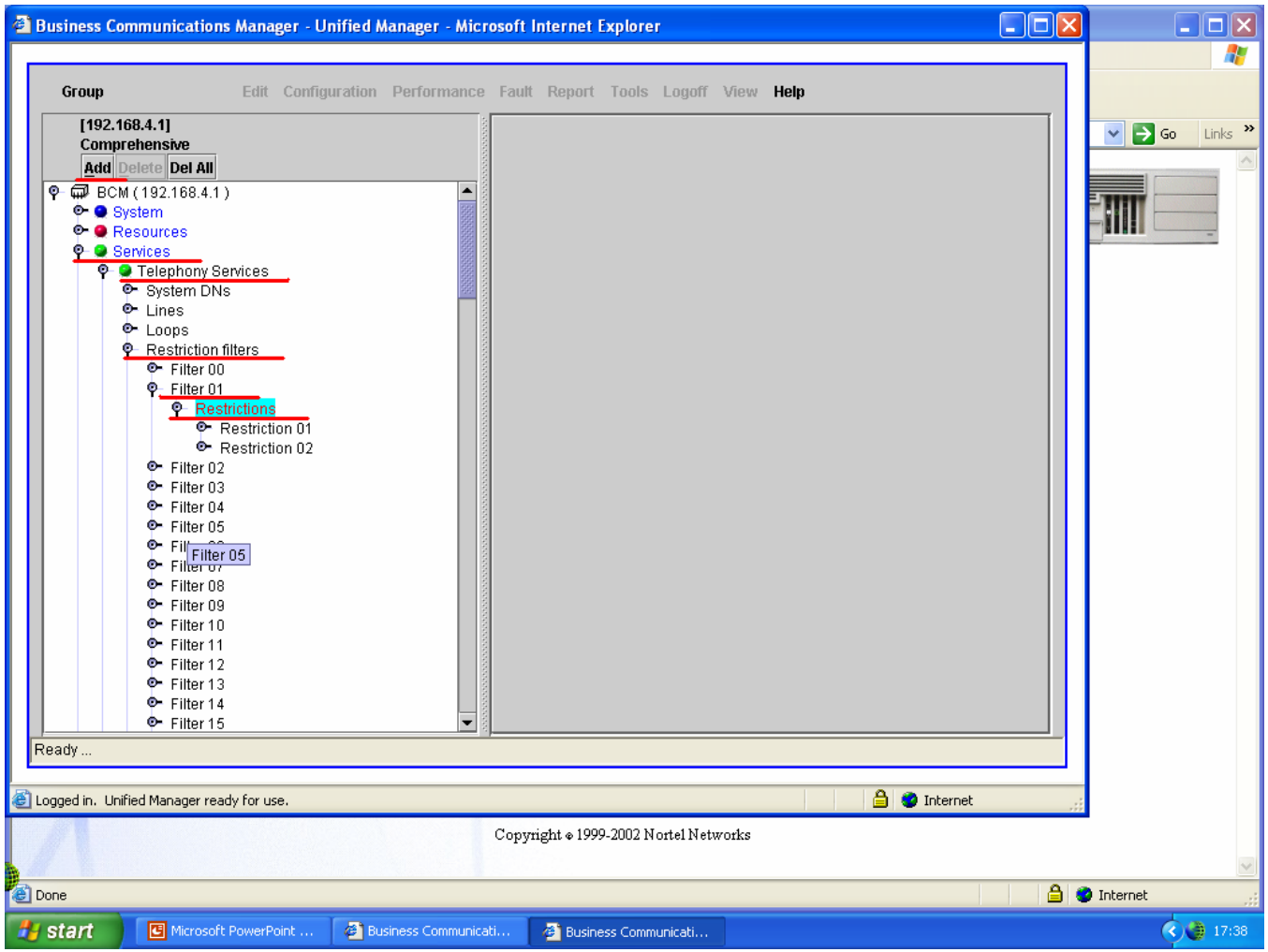
The system uses 15 digit restrictions and 16 digit overrides these can be made off any numerical character from 0-9. The system uses the letter **A** as a wild card and when it sees the character **A** it associates this as all numbers 0-9.

Example customer has asked for all mobiles to be barred except mobile numbers beginning with 07785. The easy way to do this would be to create a restriction 07AAA and then an override of 07785

Please note restriction filter 00 can not be changed

Where do I program restrictions

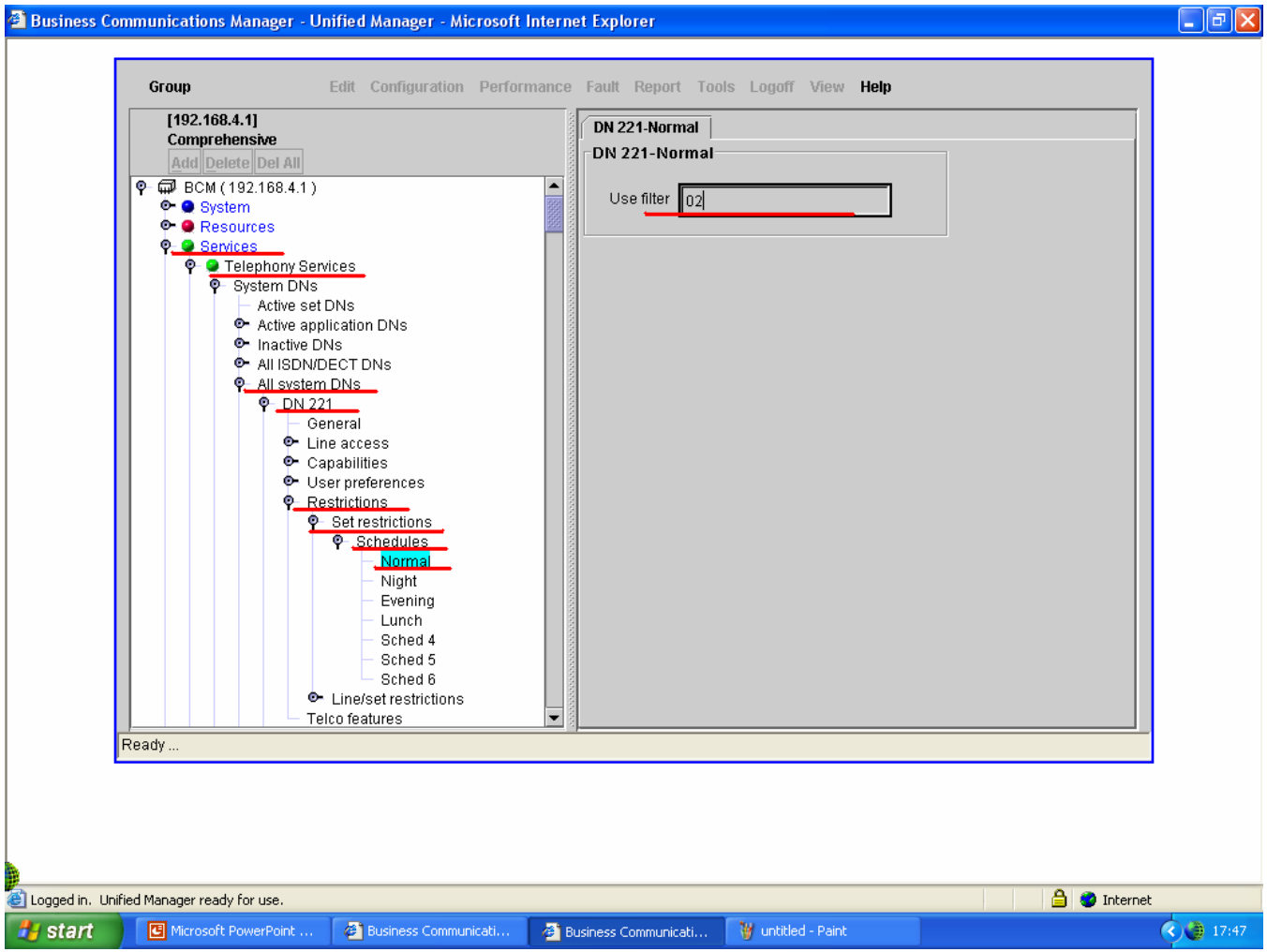
- Click on services telephony services restriction filters
- Add restriction then add your overrides



How do we apply to an extension

- Click on services telephony services system DNS and the find the extension
- Click on the extension (DN 221)
- Then click restrictions set restrictions schedules and then which schedule you want to Barr day night this will depend on how many modes you are using on your BCM

How do we apply to an extension



Night service

The BCM uses services to control what way a call should ring in the system there are 6 modes day,night,lunchtime etc

This can set to switch over automatically or by a control DN invoking feature 871 and selecting which service mode.

The system uses ringing groups and the ringing groups are associated to a line at a certain time of day.

The following example is something that is asked for on a regular basis

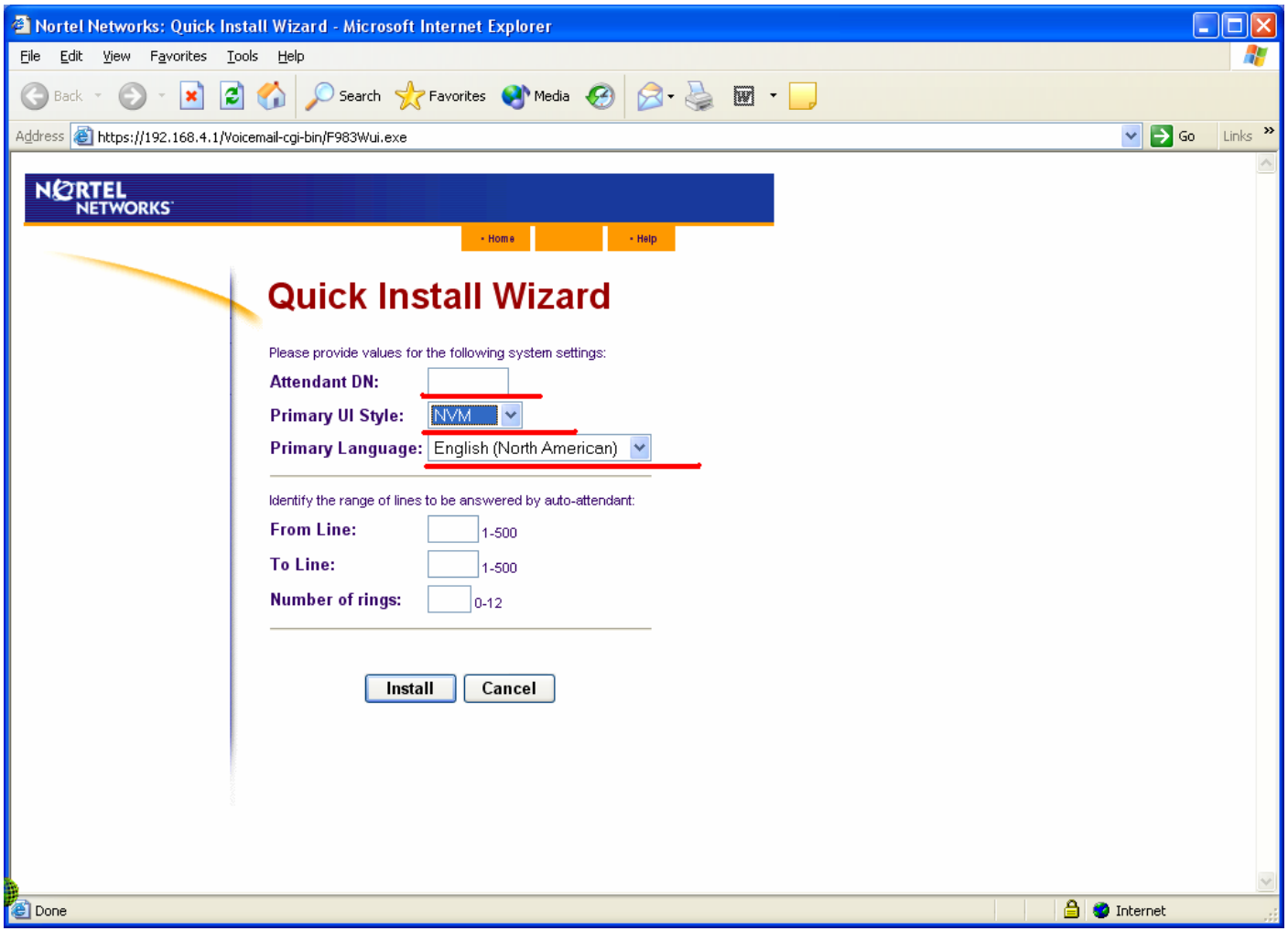
In the day time the customer wants the calls to ring at Ext 221,222 and 223 but at night time they want it to play a message saying the offices are closed and please leave a brief message after the tone. They do not want an AA in the day time.

This is a simple way to set up a general out of hours message

- Set up ring group 2 to have the voice mail extension in it and then assign the ring group to the line you want to go to voicemail
- You will have to remove the extension from the ring group (default first extension on system)
- The decide if the service is automatic or manual
- You can override the automatic services by using the feature code
- Note the above will send the calls to the general delivery mailbox on the system.
- Please make sure this is initialized.

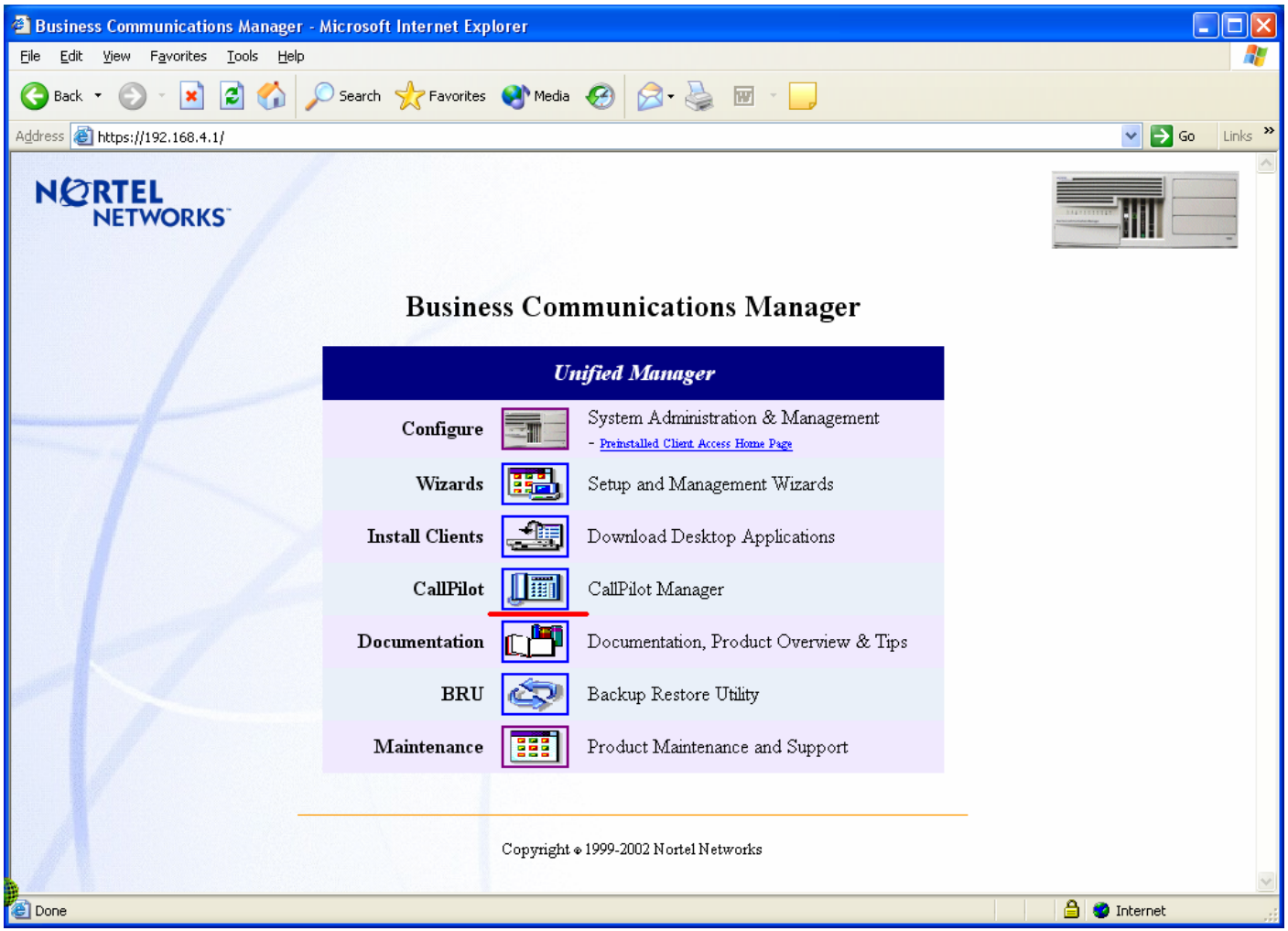
Parameters

- Set Attendant DN (operator) Set call pilot Style Norstar or Call pilot Set Language



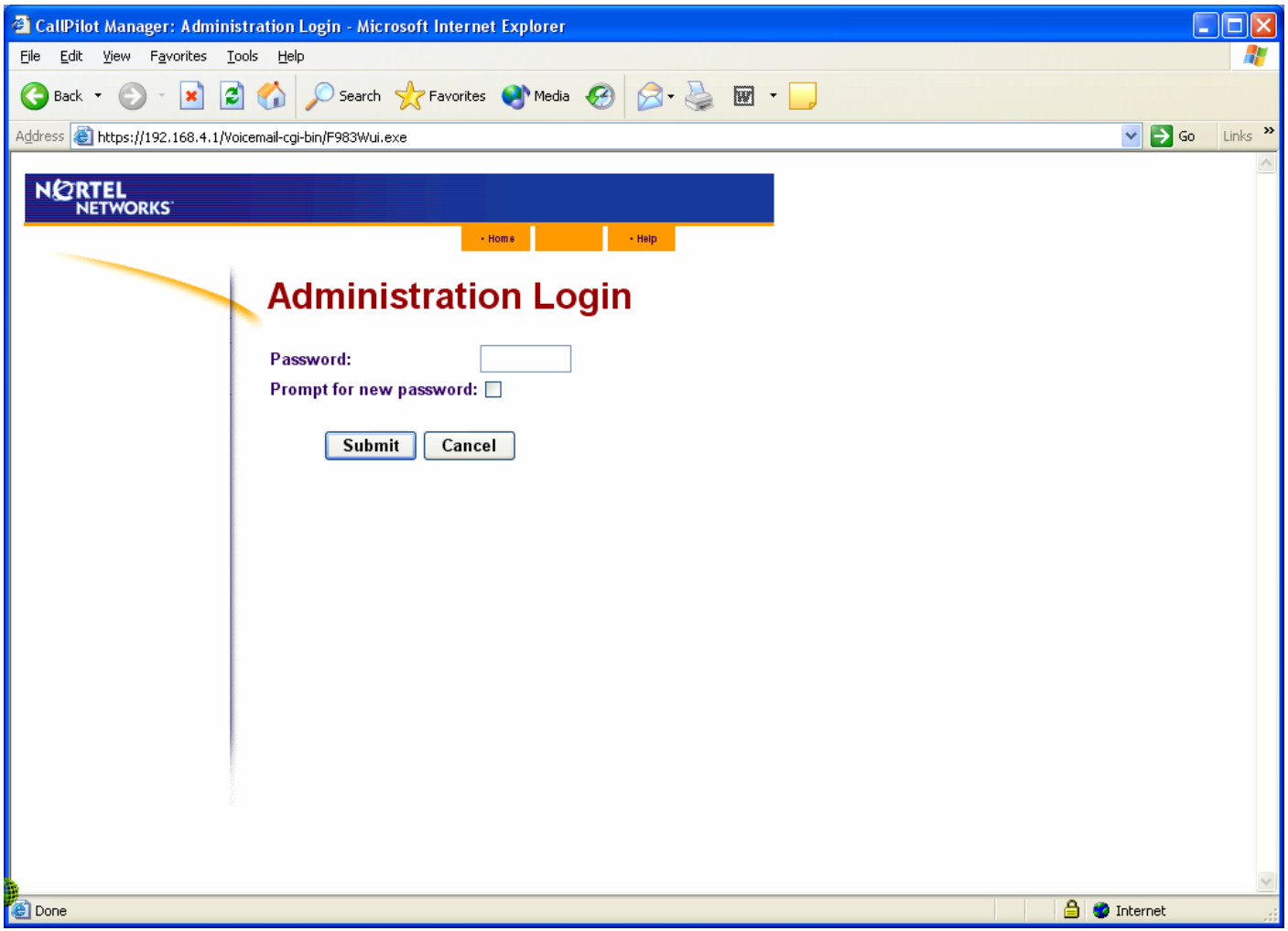
Logging in

- Click on Call pilot icon and enter Password (default 0000)



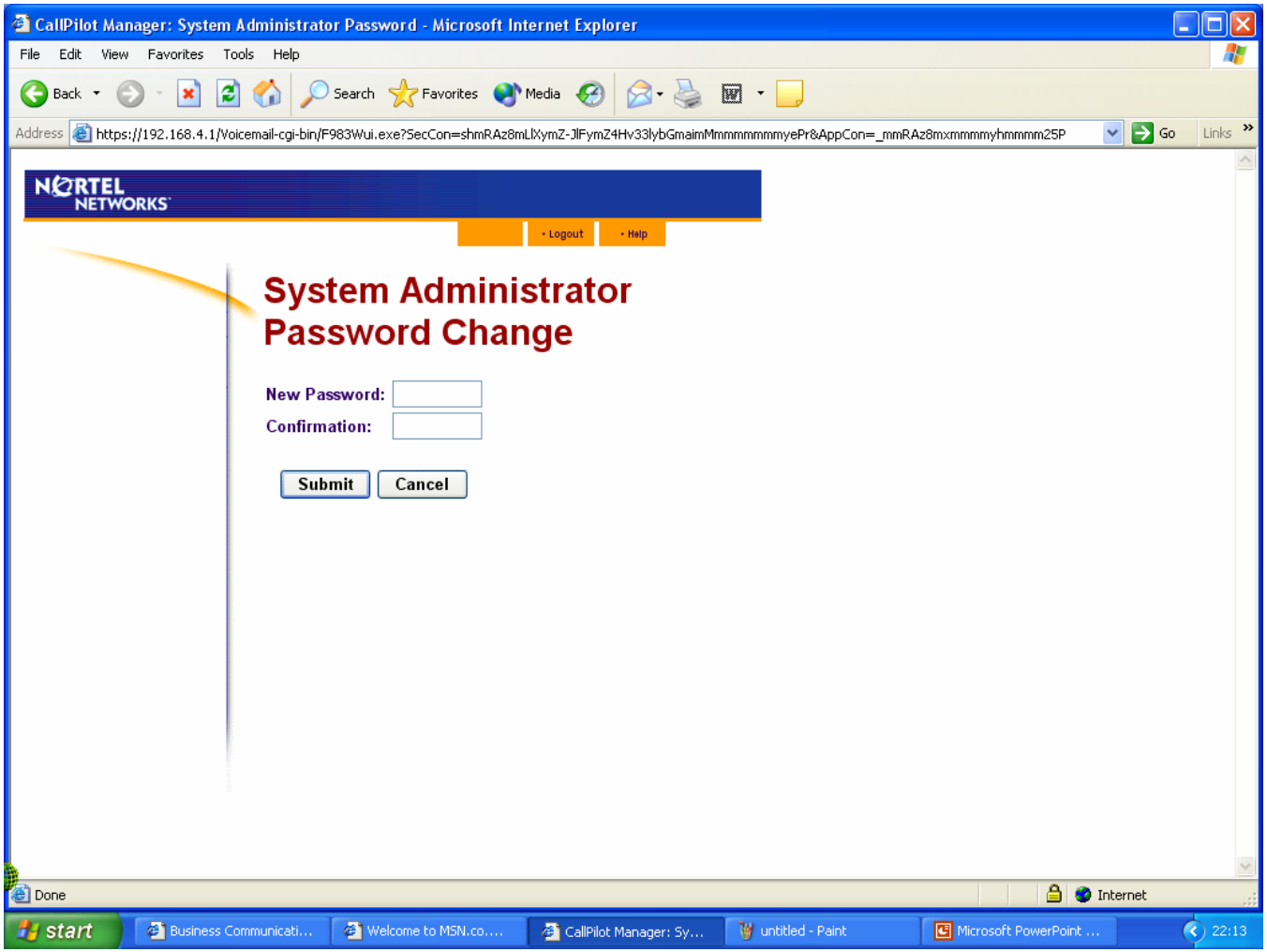
Logging in

- Click on Call pilot icon and enter Password (default 0000)

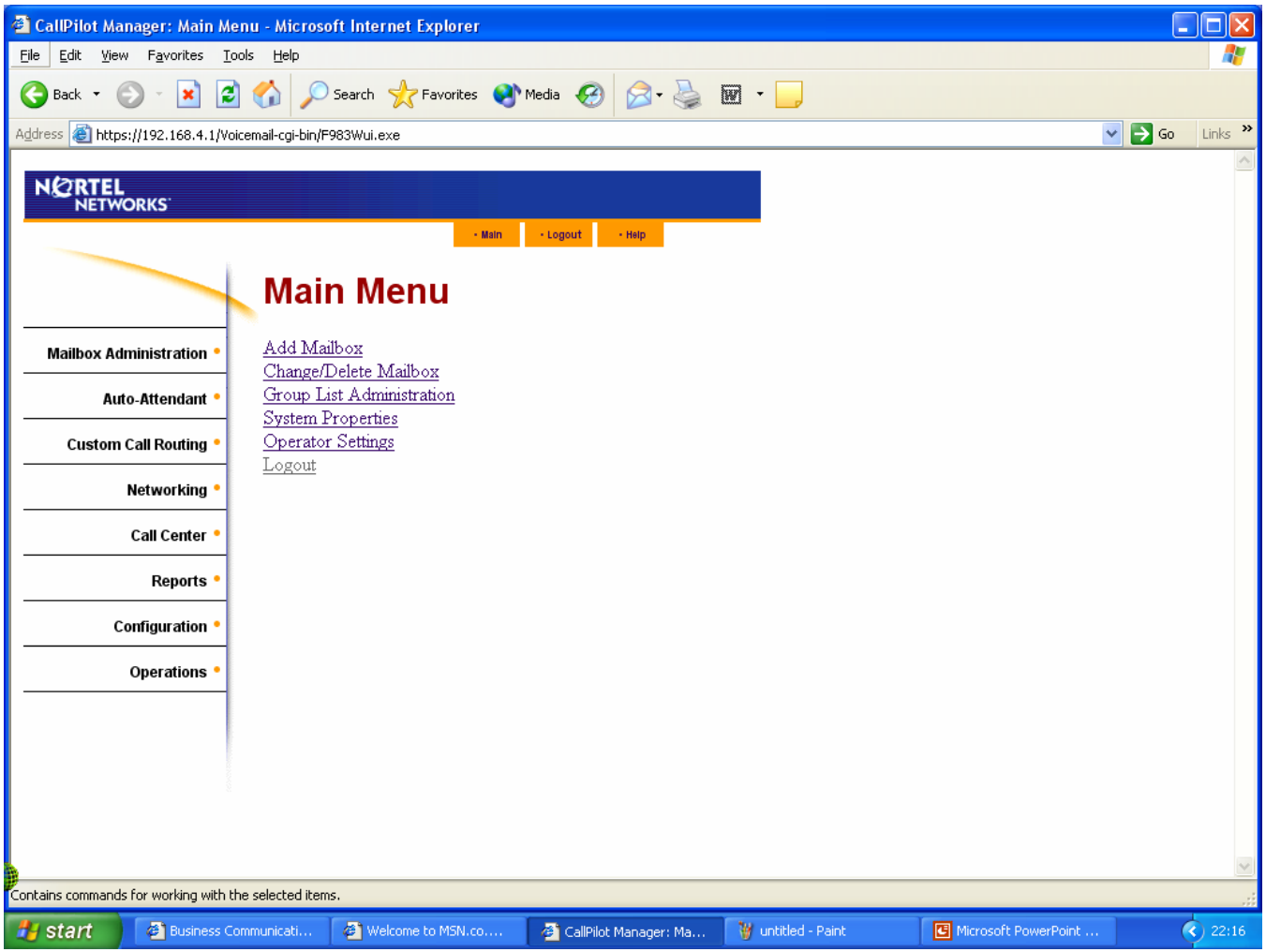


Password

- System will prompt for new password



Main Menu


CallPilot Manager: Main Menu - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://192.168.4.1/Voicemail-cgi-bin/F983Wui.exe
Go Links
NORTEL NETWORKS
Main Logout Help
Main Menu
Mailbox Administration
Auto-Attendant
Custom Call Routing
Networking
Call Center
Reports
Configuration
Operations
Add Mailbox
Change/Delete Mailbox
Group List Administration
System Properties
Operator Settings
Logout
Contains commands for working with the selected items.
start
Business Communicati...
Welcome to MSN.co....
CallPilot Manager: Ma...
untitled - Paint
Microsoft PowerPoint ...
22:16

How does it work on the BCM

Auto attendant on the BCM is set up using the Greeting Tables and Custom Call routing Tables. There is a maximum of 4 greeting tables and 8 CCR trees on all BCM systems (BCM200 or BCM 400)

The lines on the system are allocated a greeting table and an answer delay period the greeting table then can be configured to use different CCR trees at different times of the day.

In the example we will setup the AA to answer the calls and play the following

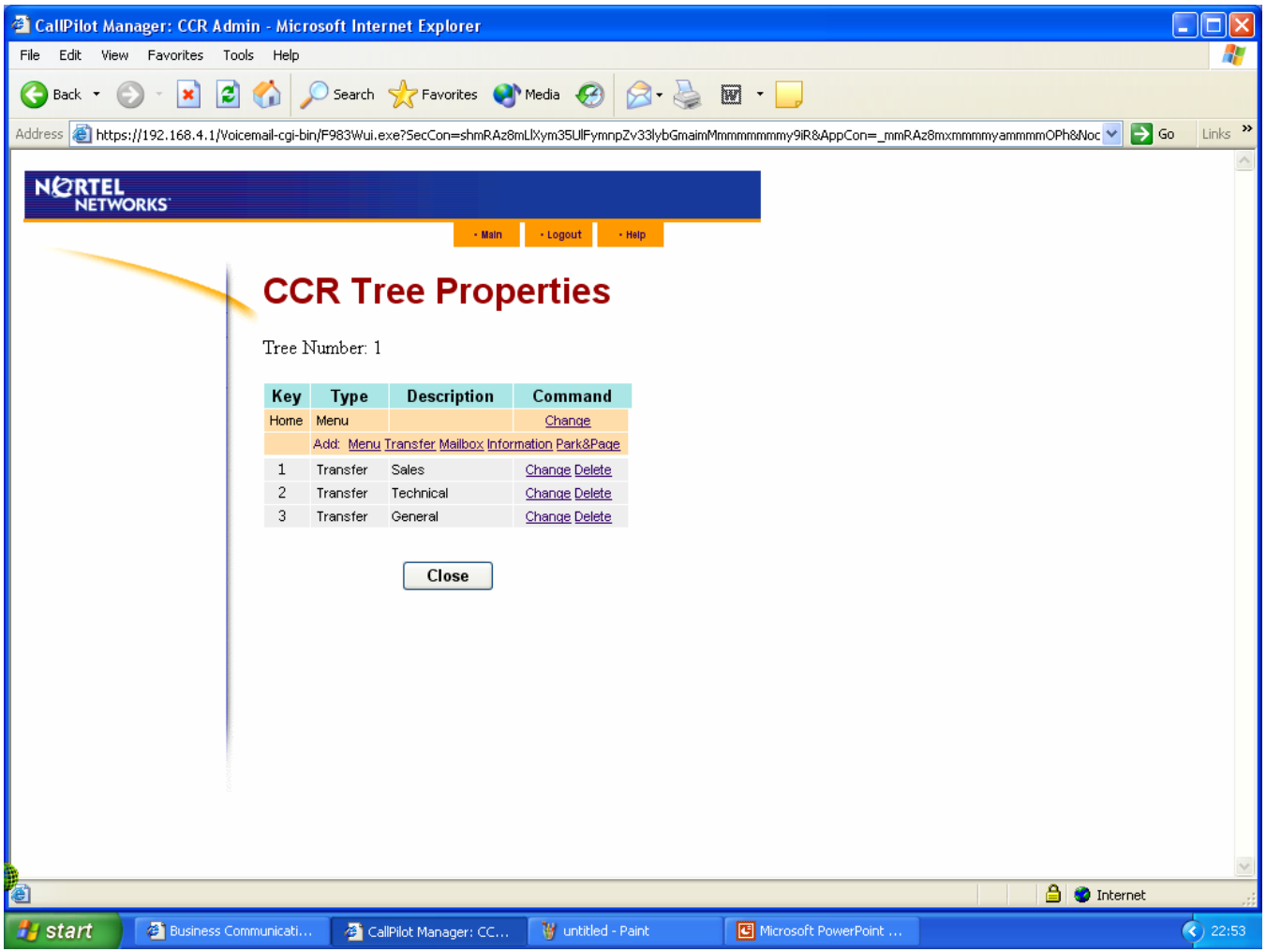
Day	Night
Press 1 for sales	Press 1 To leave a message for sales
Press 2 for technical	Press 2 for on call engineer
Press 3 for general enquires	Press 3 to leave a message general
Or hold for the operator	

Setting up the day service

- Step 1

- Click on Custom Call Routing on left hand side
- Click on create at tree 1
- Select Home Menu node
- Click on transfer node
- The number 1 appears
- Click on Change and set sales extension number (201)
- Click on transfer again and then follows same steps as before substituting the sales extension for the technical extension etc
- Submit
- you will now have built your CCR tree and it should look like the following

CCR tree 1


CallPilot Manager: CCR Admin - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://192.168.4.1/Voicemail-cgi-bin/F983Wui.exe?SecCon=shmRAz8mLlXym35UlFymnpZv33lybGmaimMmmmmmmmy9iR&AppCon=_mmRAz8mxmmmmyammmmOPh&Noc
Go Links
NORTEL NETWORKS
· Main · Logout · Help
CCR Tree Properties
Tree Number: 1
Key Type Description Command
Home Menu Change
Add: Menu Transfer Mailbox Information Park&Page
1 Transfer Sales Change Delete
2 Transfer Technical Change Delete
3 Transfer General Change Delete
Close
Internet
start
Business Communicati...
CallPilot Manager: CC...
untitled - Paint
Microsoft PowerPoint ...
22:53

Setting up the day service

- Step 2

- Click on auto attendant on left hand side
- Click on company greetings
- Click on greeting 1
- Type in the extension number you wish to record your greeting from and click dial
- When you are ready record your greeting by clicking on the record button

Thank you for calling your company if you wish to speak to our sales department press 1,Technical press 2,General enquires press 3 or hold for the operator

- When you have finished click stop and then click save
- Note you can not erase a company greeting after it has been recorded you can only rerecord over the original greeting

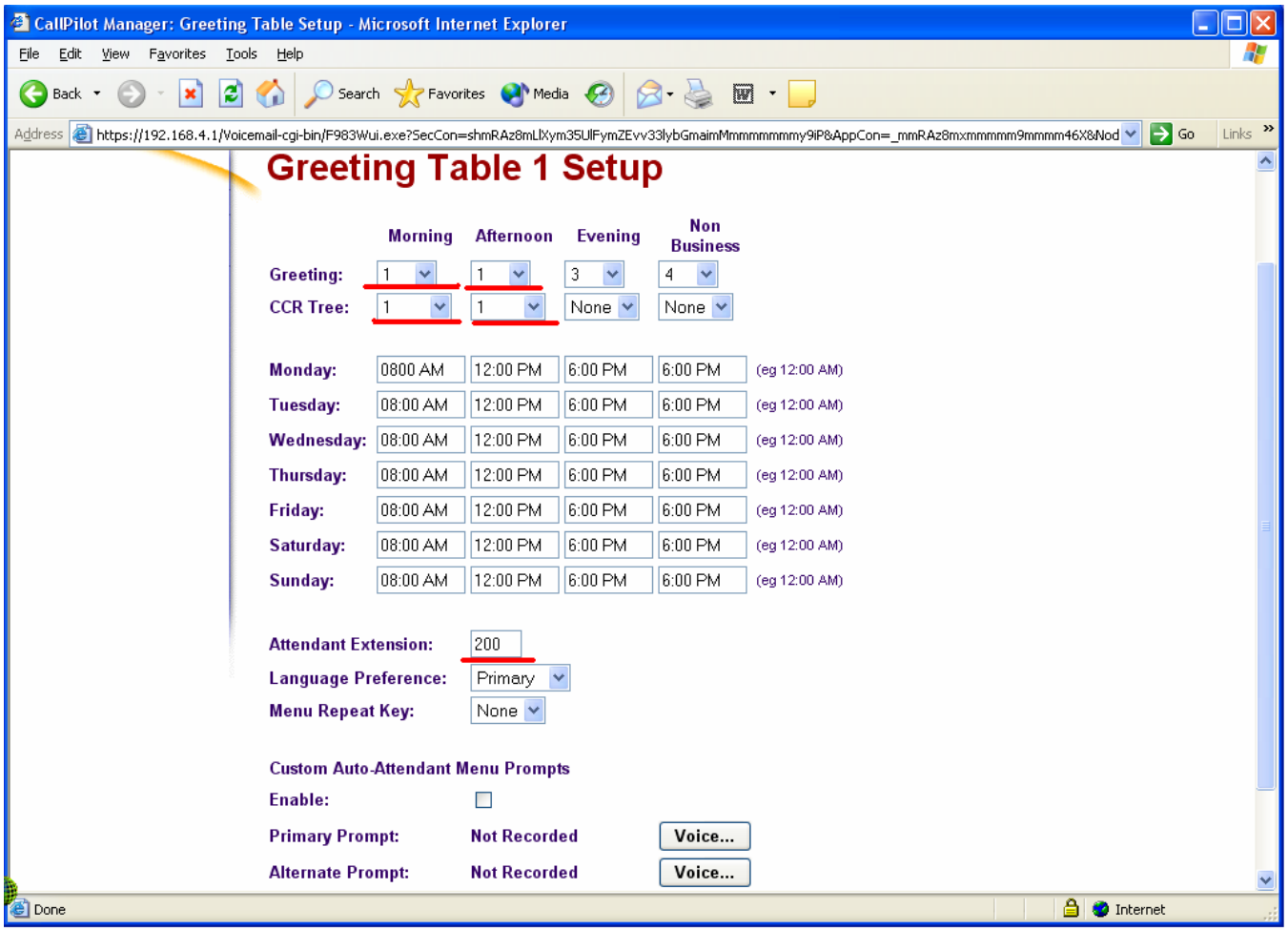
Setting up the day service

- Step 3

- Click on auto attendant
- Click greeting tables
- Click change beside greeting table 1
- Select greeting 1 for morning and afternoon
- Select CCR tree 1 for morning and afternoon
- Set extension 200 as attendant DN
- Set customer opening hours
- Note it is the time that governs what greeting is played and what CCR tree is used. But the operator can force the system in to out of hours operation. (emergencies Holidays)

- If you have entered all of the information as above you should have a greeting table that looks like the following

Greeting Table 1



Setting up the night service

- Step 1

- Add sales mailbox
- Add general enquires mailbox
- Initialize the sales mail box and the general enquires mail box

- Step 2
- Click on Custom Call Routing
- Click on create on CCR tree 2
- Select Menu mode

- Step 3
- Click mailbox
- Click change on mailbox at number 1 and enter sales mailbox
- Select Disconnect as destination

Setting up the night service

- Step 4

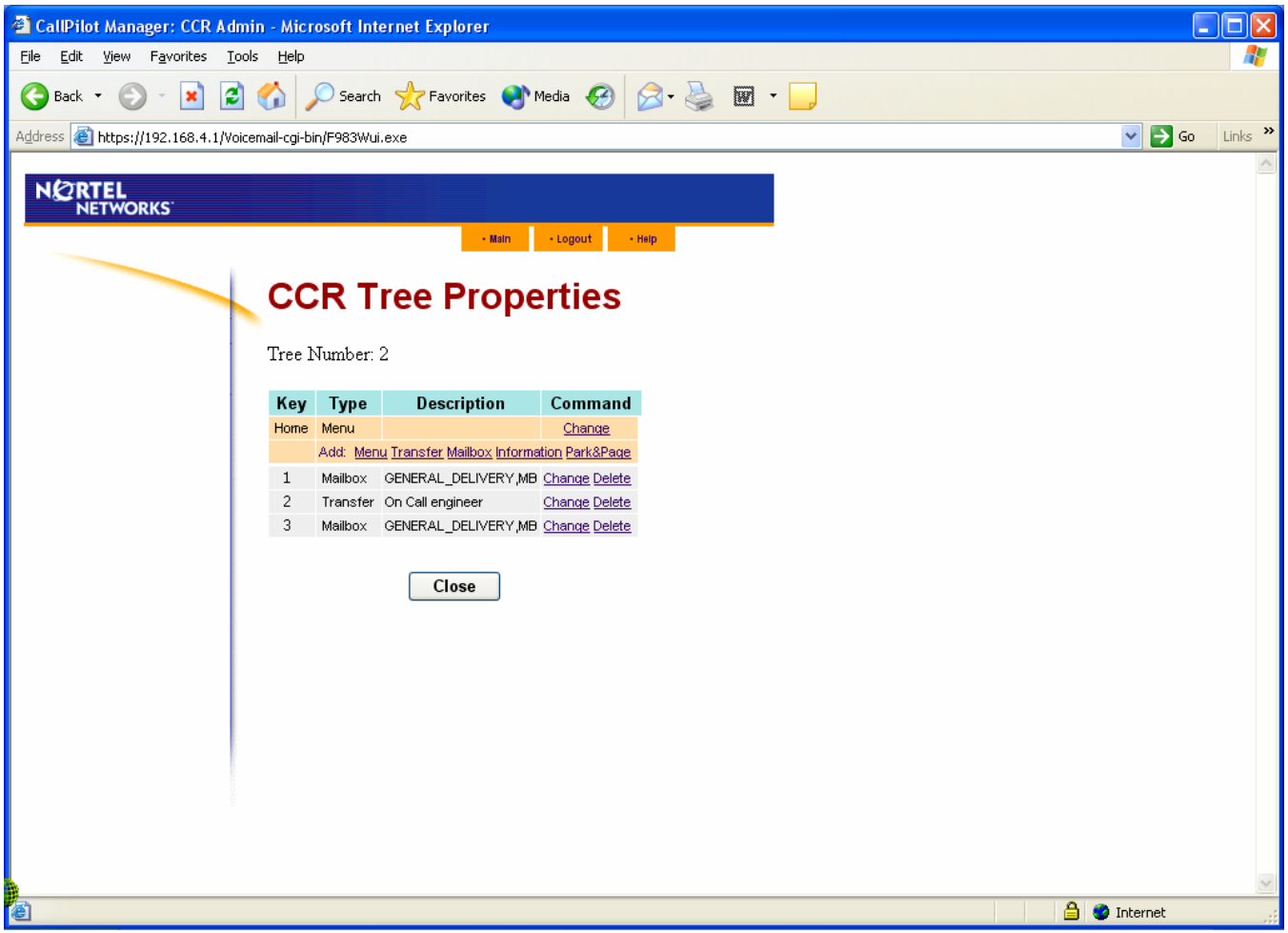
- Click on transfer and enter the on call engineers mobile number
- Change the out dial method to pool and enter the correct pool number
- 1 corresponds to pool a 2 pool b etc
- If you have ISDN 30e then select route no number

- Step 5

- repeat step 3 but substitute sales mail box for general enquires

- The CCR tree should look like the following

CCR Tree 2


CallPilot Manager: CCR Admin - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://192.168.4.1/Voicemail-cgi-bin/F983Wui.exe
Go Links
NORTEL NETWORKS
• Main • Logout • Help
CCR Tree Properties
Tree Number: 2
Key Type Description Command
Home Menu Change
Add: Menu Transfer Mailbox Information Park&Page
1 Mailbox GENERAL_DELIVERY,MB Change Delete
2 Transfer On Call engineer Change Delete
3 Mailbox GENERAL_DELIVERY,MB Change Delete
Close
Internet

Setting up the night service

- Step 6

- Click on auto attendant on left hand side
- Click on company greetings
- Click on greeting 2
- Type in the extension number you wish to record your greeting from and click dial
- When you are ready record your greeting by clicking on the record button

Thank you for calling your company our offices are currently closed if you wish to leave a message for our sales department press 1 If you wish to speak to the on call engineer press 2 or if you would like to leave a general enquiry message press 3

- When you have finished click stop and then click save

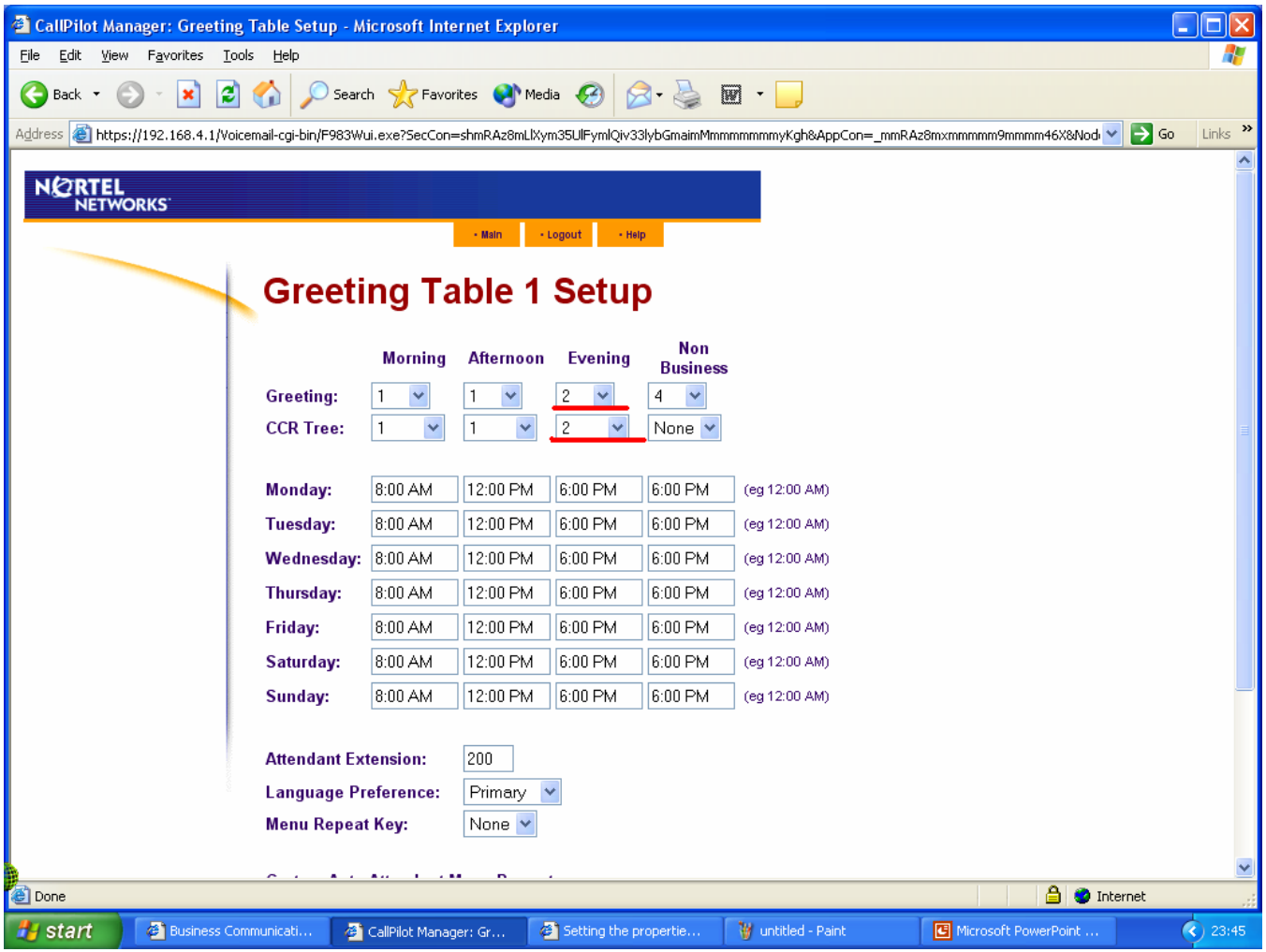
Setting up the night service

- Step 7

- Click on auto attendant
- Click greeting tables
- Click change beside greeting table 1
- Select greeting 2 for evening
- Select CCR tree 2 for evening
- Set customer opening hours
- Note it is the time that governs what greeting is played and what CCR tree is used. But the operator can force the system in to out of hours operation. (emergencies Holidays)

- If you have entered all of the information as above you should have a greeting table that looks like the following

CCR Tree 2


CallPilot Manager: Greeting Table Setup - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address https://192.168.4.1/Voicemail-cgi-bin/F983Wui.exe?SecCon=shmRAz8mLlXym35UlFymlQiv33lybGmaimMmmmmmmmyKgh&AppCon=_mmRAz8mxmmmmm9mmmm46X&Nod
Go Links
NORTEL NETWORKS
Main Logout Help
Greeting Table 1 Setup
Morning Afternoon Evening Non Business
Greeting: 1 1 2 4
CCR Tree: 1 1 2 None
Monday: 8:00 AM 12:00 PM 6:00 PM 6:00 PM (eg 12:00 AM)
Tuesday: 8:00 AM 12:00 PM 6:00 PM 6:00 PM (eg 12:00 AM)
Wednesday: 8:00 AM 12:00 PM 6:00 PM 6:00 PM (eg 12:00 AM)
Thursday: 8:00 AM 12:00 PM 6:00 PM 6:00 PM (eg 12:00 AM)
Friday: 8:00 AM 12:00 PM 6:00 PM 6:00 PM (eg 12:00 AM)
Saturday: 8:00 AM 12:00 PM 6:00 PM 6:00 PM (eg 12:00 AM)
Sunday: 8:00 AM 12:00 PM 6:00 PM 6:00 PM (eg 12:00 AM)
Attendant Extension: 200
Language Preference: Primary
Menu Repeat Key: None
Done
Internet
start
Business Communicati...
CallPilot Manager: Gr...
Setting the propertie...
untitled - Paint
Microsoft PowerPoint ...
23:45

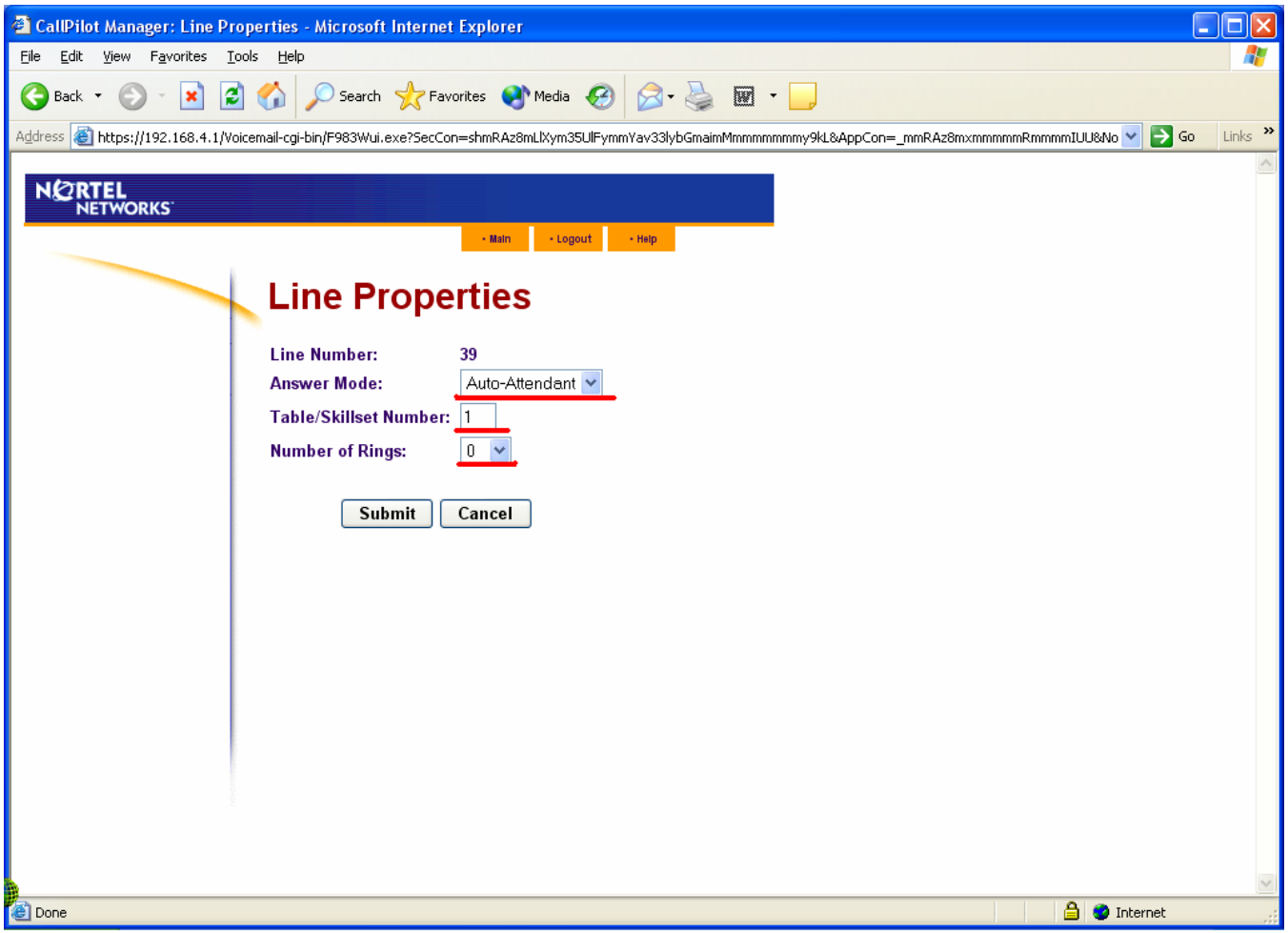
Enabling the AA service

- Final step

- Click on auto attendant left hand side
- Click line administration
- Click on the word change beside the line or lines you want the auto attendant to answer
- Change answer mode to auto attendant
- Table/skillset number to 1
- Number of rings 0

- After you have completed this step your auto attendant should now be in operation

Line Admin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Address https://192.168.4.1/Voicemail-cgi-bin/F983Wui.exe?SecCon=shmRAz8mLlXym35UlFymmYav33lybGmaimMmmmmmmmy9kL&AppCon=_mmRAz8mxmmmmmRmmmmIUU&No
Go Links
NORTEL NETWORKS
Main Logout Help
Line Properties
Line Number: 39
Answer Mode: Auto-Attendant
Table/Skillset Number: 1
Number of Rings: 0
Submit Cancel
Done
Internet

Handy Codes to remember

- Reset System Administrator Password
- Feature 985
- Press 9
- Enter resetsmpswd (73738767793
- Press yes
- The system password will be reset to 0000

- Initialize Voice Mail
- Feature 982
- Enter operator (67372867)
- Press 1
- Enter reinstall (734678255)
- Press OK
- Press yes

Exercise 3

- Setup main number to be Hunt group (linear 3 ring delay 15 seconds)
- Barr all extensions from dialing 118 and 09
- Setup incoming calls to ring other office at night (call routing)
- Give all extensions mailbox
- Initialize all mailboxes
- Setup calls to play message at lunch time ?
- Extension 221 to have the ability to record calls
- Configure custom call routing option for delayed ringing after 8 rings
  Option 1 ring extension ?000 option 2 ring extension ?001 or hold for extension ?003 (auto attendant)