ISDN subscribers will always be called by the same subscriber number irrespective of where in the network the call originates. For calls in the same numbering area or local network the subscriber number alone is dialled. For national calls between numbering areas or local networks the subscriber number may be preceded by the national prefix and the national destination code.

The addressing procedures for calls using sub-addressing are described in § 12.

12 Addressing within a subscriber's installation

Identification within a subscriber's installation of a point beyond the ISDN boundary requires the transfer of address information from the public network to the subscriber's equipment. Two cases can apply:

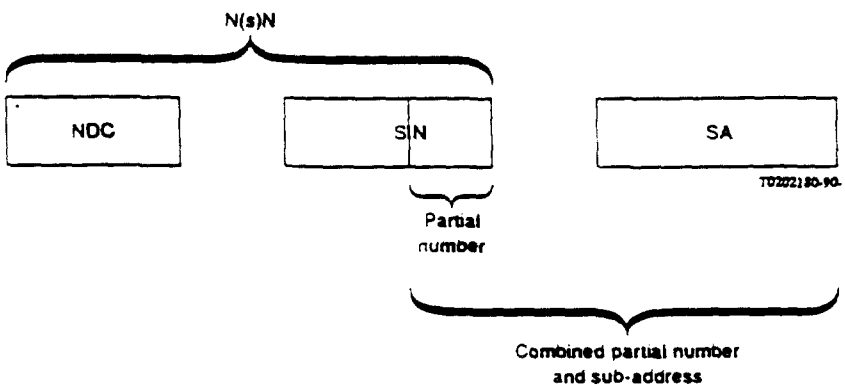
- identification by an ISDN number,
- identification by an ISDN number plus additional address information.

12.1 *Addressing by an ISDN number*

When selecting a destination in the subscriber installation, digits forming the end of the ISDN subscriber number are transferred to the called subscriber's installation as a partial number (see Figure 2/E.164). The number of digits used depends upon the requirements of the called subscriber's equipment and the capacity of the numbering plan used.

If the subscriber's installation includes an NT2 (see Recommendation I.330), the partial number will be used in the context of the direct-dialling-in supplementary service.

If the subscriber's installation consists of terminal equipment only, the transferred digits will be used in the context of the multiple-subscriber-number supplementary service.



NDC National destination code
N(s)N National (significant) number
SA Sub-address
SN Subscriber number

Note – The multiple-subscriber-number application is not covered in the diagram.

FIGURE 2/E.164

12.2 *Sub-addressing (network address extension)*

Sub-addressing provides a separate additional addressing capacity outside the ISDN numbering plan but ·stitutes an intrinsic part of the ISDN addressing capabilities. As shown in Figure 2/E.164, up to 20 octets (or igits) may follow the ISDN number and form the ISDN sub-address, which is transferred to the equipment at the ·scriber's premises.

When required, the sub-address is sent by the calling party within the call set-up procedure and is passed transparently through the network as a separate entity from both the ISDN number and user-to-user information. Sub-address information is not required to be processed within the public network.

Sub-addressing procedures are the subject of a separate Recommendation.

12.3 *Combination of addressing and sub-addressing*

Sub-addressing may be used separately or in combination with a partial number (see Figure 2/E.164).

12.4 *Address delimiters*

DDI address information may contain an "end of address" (e.g. ST) delimiter. In the case of sub-addressing, an "end of subscriber number/beginning of sub-address" delimiter and the "end of address" delimiter are required.

(The use of an address delimiter at the end of an ISDN address is for further study.)

13 Recommendation history

Recommendation E.163, first issue 1964 – revised at all subsequent Plenary Assemblies.

Recommendation E.163 – merged with Recommendation E.164 (see below).

Recommendation E.164, first issue 1984.

Recommendation E.164, second issue 1988.

Recommendation E.164, third issue 1991 – merged with Recommendation E.163.

ANNEX A

(to Recommendation E.164)

List of country codes incorporating amendments proposed by the World Plan Committee, 1988

World numbering ZONE 1

Anguilla	1 [a]	Bermuda	1 [a]
Canada	1 [a]	Bahamas (Commonwealth of the)	1 [a]
United States of America, including		Dominican Republic	1 [a]
Puerto Rico and the Virgin Islands	1 [a]	Grenada	1 [a]
Jamaica	1 [a]	Montserrat	1 [a]
Barbados	1 [a]	Saint Kitts and Nevis	1 [a]
Antigua and Barbuda	1 [a]	Saint Lucia	1 [a]
Cayman Islands	1 [a]	Saint Vincent and the Grenadines	1 [a]
British Virgin Islands	1 [a]	Turks and Caicos (Islands)	1 [a]

[a] Integrated numbering area.

World numbering ZONE 2

Egypt (Arab Republic of)	20	Guinea-Bissau (Republic of)	245
Morocco (Kingdom of)	21 [a]	Diego Garcia	246
Algeria (People's Democratic		Ascension	247
Republic of)	21 [a]	Seychelles (Republic of)	248
Tunisia	21 [a]	Sudan (Republic of the)	249
Libya (Socialist People's Libyan		Rwandese Republic	250
Arab Jamahiriya)	21 [a]	Ethiopia	251
Gambia (Republic of the)	220	Somali Democratic Republic	252
Senegal (Republic of)	221	Djibouti (Republic of)	253
Mauritania (Islamic Republic of)	222	Kenya (Republic of)	254
Mali (Republic of)	223	Tanzania (United Republic of)	255
Guinea (Republic of)	224	Uganda (Republic of)	256
Côte d'Ivoire (Republic of)	225	Burundi (Republic of)	257
Burkina Faso	226	Mozambique (People's Republic of)	258
Niger (Republic of the)	227	Zanzibar (Tanzania)	259
Togolese Republic	228	Zambia (Republic of)	260
Benin (People's Republic of)	229	Madagascar (Democratic Republic of)	261
Mauritius	230	Reunion (French Department of)	262
Liberia (Republic of)	231	Zimbabwe (Republic of)	263
Sierra Leone	232	Namibia	264
Ghana	233	Malawi	265
Nigeria (Federal Republic of)	234	Lesotho (Kingdom of)	266
Chad (Republic of)	235	Botswana (Republic of)	267
Central African Republic	236	Swaziland (Kingdom of)	268
Cameroon (Republic of)	237	Comoros (Islamic Federal	
Cape Verde (Republic of)	238	Republic of the)	269
Sao Tome and Principe		South Africa (Republic of)	27
(Democratic Republic of)	239	Saint Helena	290
Equatorial Guinea (Republic of)	240	San Marino (Republic of)	295
Gabonese Republic	241	Trinidad and Tobago	296
Congo (People's Republic of the)	242	Aruba	297
Zaire (Republic of)	243	Faroe Islands (Denmark)	298
Angola (People's Republic of)	244	Greenland (Denmark)	299

Spare codes 280, 281, 282, 283, 284, 285, 286, 287, 288, 289
290, 291, 292, 293, 294

[a] *Integrated numbering area with subdivisions:*
- Morocco: 210, 211, 212 (212 in service);
- Algeria: 213, 214, 215;
- Tunisia: 216, 217;
- Libya: 218, 219.

World numbering ZONES 3 and 4

Greece	30	Hungary (Republic of)	36
Netherlands (Kingdom of the)	31	(Reserved)	37
Belgium	32	Yugoslavia (Socialist Federal Republic of)	38
France	33 [a]	Italy	39
Monaco	33 [a]	Romania (Socialist Republic of)	40
Spain	34	Switzerland (Confederation of)	41 [a]
Gibraltar	350	Liechtenstein (Principality of)	41 [a]
Portugal	351	Czech and Slovak Federal Republic	42
Luxembourg	352	Austria	43
Ireland	353	United Kingdom of Great Britain and Northern Ireland	44
Iceland	354	Denmark	45
Albania (Republic of)	355	Sweden	46
Malta (Republic of)	356	Norway	47
Cyprus (Republic of)	357	Poland (Republic of)	48
Finland	358	Germany (Federal Republic of)	49
Bulgaria (Republic of)	359		

[a] Integrated numbering plan.

World numbering ZONE 5

Falkland Islands (Malvinas)	500	Brazil (Federative Republic of)	55
Belize	501	Chile	56
Guatemala (Republic of)	502	Colombia (Republic of)	57
El Salvador (Republic of)	503	Venezuela (Republic of)	58
Honduras (Republic of)	504	Guadeloupe (French Department of)	590
Nicaragua	505	Bolivia (Republic of)	591
Costa Rica	506	Guyana	592
Panama (Republic of)	507	Ecuador	593
St. Pierre and Miquelon (French Department of)	508	Guiana (French Department of)	594
Haiti (Republic of)	509	Paraguay (Republic of)	595
Peru	51	Martinique (French Department of)	596
Mexico	52	Suriname (Republic of)	597
Cuba	53	Uruguay (Eastern Republic of)	598
Argentine Republic	54	Netherlands Antilles	599

World numbering ZONE 6

Malaysia	60	Vanuatu (Republic of)	678
Australia	61	Fiji	679
Indonesia (Republic of)	62	Palau	680
Philippines (Republic of the)	63	Wallis and Futuna Islands	681
New Zealand	64	Cook Islands	682
Singapore (Republic of)	65	Niue Islands	683
Thailand	66	American Samoa	684
Mariana Islands	670	Western Samoa (Independent State of)	685
Guam	671	Kiribati (Republic of)	686
Australian External Territories	672	New Caledonia and Dependencies	687
Brunei Darussalam	673	Tuvalu	688
Nauru (Republic of)	674	French Polynesia	689
Papua New Guinea	675	Tokelau	690
Tonga (Kingdom of)	676	F.S. of Micronesia	691
Solomon Islands	677	Marshall Islands	692

Spare codes 693, 694, 695, 696, 697, 698, 699

World numbering ZONE 7

Union of Soviet Socialist Republics

World numbering ZONE 8

Japan	81	Democratic Kampuchea	855
Korea (Republic of)	82	Lao People's Democratic Republic	856
Viet Nam (Socialist Republic of)	84	China (People's Republic of)	86 [a]
Democratic People's Republic of Korea	850	Maritime Mobile Service	87 [b]
Hong-Kong	852	Bangladesh (People's Republic of)	880 [c]
Macao	853		

Spare codes 800, 801, 802, 803, 804, 805, 806, 807, 808, 809
830, 831, 832, 833, 834, 835, 836, 837, 838, 839
851, 854, 857, 858, 859
890, 891, 892, 893, 894, 895, 896, 897, 898, 899

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[a] Within this national code, the Telecommunications Administration of the People's Republic of China has notified that the code 866 has been allocated to the province of Taiwan. (Reference: Notification No. 1157 of 10 December 1980.)

[b] The country code 87 is reserved for the Maritime Mobile Service. The following 3-digit country codes are assigned: 871 INMARSAT (Atlantic Ocean-East), 872 INMARSAT (Pacific Ocean), 873 INMARSAT (Indian Ocean), 874 INMARSAT (Atlantic Ocean-West).

[c] The remaining combinations in series 88 will not be allocated until the stock of spare 3-digit codes for the region is exhausted.

World numbering ZONE 9

Turkey	90	Saudi Arabia (Kingdom of)	966
India (Republic of)	91	Yemen (Republic of)	967
Pakistan (Islamic Republic of)	92	Oman (Sultanate of)	968
Afghanistan (Democratic Republic of)	93	(Reserved)	969
Sri Lanka (Democratic Socialist Republic of)	94	United Arab Emirates [a]	971
Burma (Socialist Republic of the Union of)	95	Israel (State of)	972
Maldives (Republic of)	960	Bahrain (State of)	973
Lebanon	961	Qatar (State of)	974
Jordan (Hashemite Kingdom of)	962	Kingdom of Bhutan	975
Syrian Arab Republic	963	Mongolian People's Republic	976
Iraq (Republic of)	964	Nepal	977
Kuwait (State of)	965	Iran (Islamic Republic of)	98

Spare codes 970, 978, 979
990, 991, 992, 993, 994, 995, 996, 997, 998, 999

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[a] E.A.U: Abu Dhabi, Ajman, Dubai, Fujeirah, Ras Al Khaimah, Sharjah, Umm Al Qaiwain.

ANNEX B

(to Recommendation E.164)

Rules for the assignment of spare country codes

The rules listed in this annex are provided as a basis for the most effective utilization of the spare country codes.

B.1 Single isolated 3-digit codes should be assigned prior to the assignment of any 3-digit code which is part of a series of more than two consecutive 3-digit codes.

B.2 The assignment of spare codes of a zone, both within that zone and also to another zone, will take place as follows:

a) When assigning a code to a country in the same zone:

start with the lowest numbered 3-digit codes in ascending order.

b) When assigning a code to a country in another zone:

start with the highest numbered 3-digit codes in descending order.

c) Within the code 87 reserved for mobile applications, a third digit will be assigned to codes used for mobile-satellite ocean area systems, with the restriction that codes 878 and 879 may not be touched as they are reserved for national purposes.

In the INMARSAT system, the use of the digit X, in the country code range 87X, to indicate the ocean area in which the mobile earth station is located at the time of the call, is considered a temporary arrangement. It is recognized that such an arrangement should be avoided in the future since it requires the calling customer to know the area of a destination mobile earth station at the time of a call, and such an area may change from time to time for the mobile earth station. The long-term objective is to allocate a new single country code, which will apply irrespective of the location of the destination mobile earth station and subsequently recover the existing four code assignments.

B.3 Country codes for new international services or for the automation of some existing services should be taken from the world numbering zone with the most spare codes.

ANNEX C

(to Recommendation E.164)

List of spare country codes for the international semiautomatic and automatic service

Spare codes

280, 281, 282, 283, 284, 285, 286, 287, 288, 289
291, 292, 293, 294
693, 694, 695, 696, 697, 698, 699
800, 801, 802, 803, 804, 805, 806, 807, 808, 809
830, 831, 832, 833, 834, 835, 836, 837, 838, 839
851, 854, 857, 858, 859
890, 891, 892, 893, 894, 895, 896, 897, 898, 899
970, 978, 979
990, 991, 992, 993, 994, 995, 996, 997, 998, 999

ANNEX D

(to Recommendation E.164)

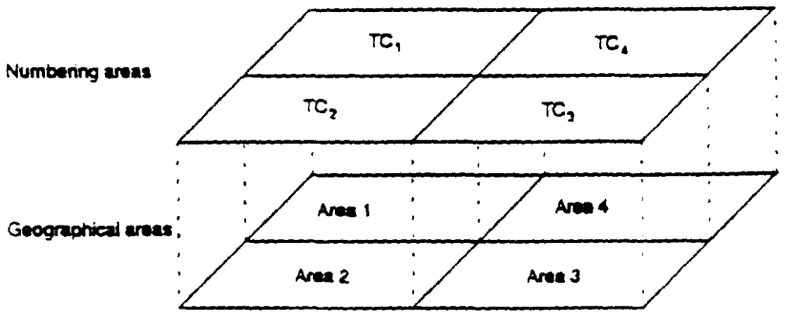
Guidelines for NDC application

The structure of NDC may be one of or a combination of the following four types depending on the national situation where the concerned numbering plan could be applied according to the present form of ISDN or PSTN.

1) *Type 1 (NDC = TC)*

This type is effective when:

- only one ISDN or PSTN serves a certain geographical area.

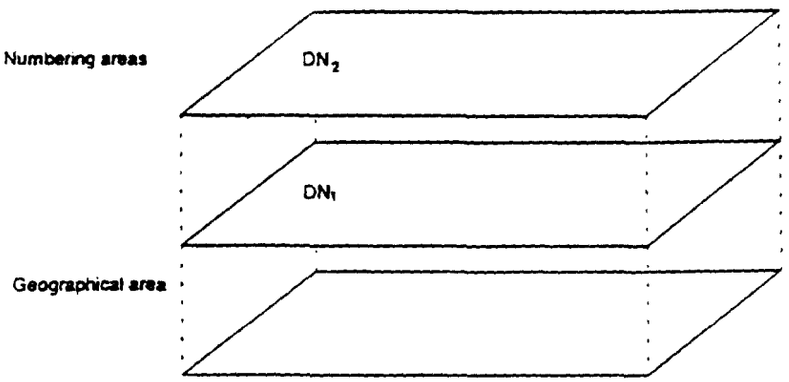


T0202630-91

2) *Type 2 (NDC = DN)*

This type is effective when:

- ISDN or PSTN does not correspond to a geographical area.

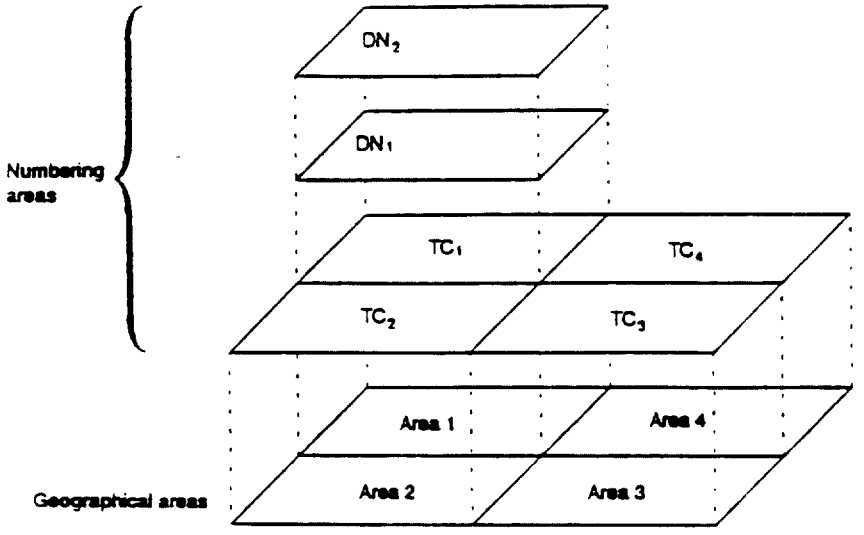


T0202640-91

3) *Type 3 (NDC = TC – DN)*

This type is effective when:

- in the same geographical area, multiple ISDNs and/or PSTNs offer services,
- among all ISDNs and PSTNs, the geographical areas and the TC indicating the area are all common.

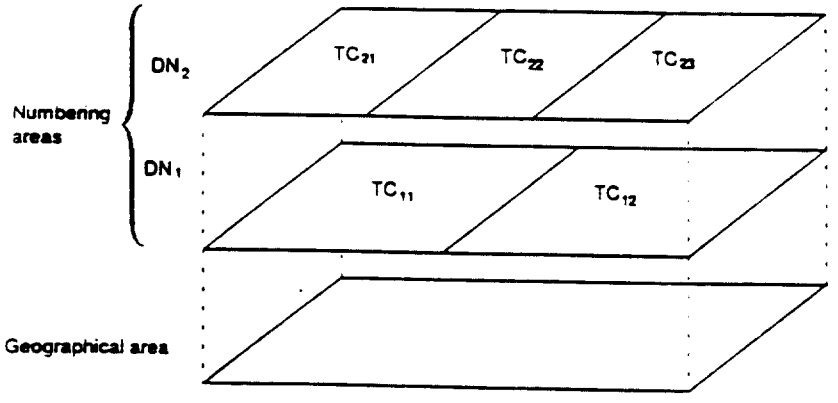


T0202650-91

4) *Type 4 (NDC = DN – TC)*

This type is effective when:

- in the same geographical area, multiple ISDNs and/or PSTNs offer services,
- in each ISDN or PSTN, the geographical areas and the TC indicating the area are decided freely.



T0202660-91

References

[1.] CCITT Manual *National telephone networks for automatic service*, ITU, Geneva, 1964, 1968, 1978.

ANNEX E

(to Recommendation E.164)

Alphabetical list of abbreviations used in this Recommendation

CC	Country code
CDLI	Called line identity
CLI	Calling line identity
COLI	Connected line identity
DDI	Direct dialling in
DN	Destination network
ISDN	Integrated services digital network
N(S)N	National (significant) number
NDC	National destination code
NPI	Numbering plan identifier
PSTN	Public switched telephone network
SA	Sub-address
SN	Subscriber number
TC	Trunk code
TON	Type of number

TAB 2

EXHAUST, EXPANSION, AND THE EFFECTS OF COMPETITION ON NUMBERING

Objectives For This Unit (1)

- Describe the four major numbering changes coming in the next few years.
  - Renewing the supply of area codes
  - Expanding carrier identification codes
  - Expanding world telephone numbers
  - Overlaying existing area codes
- Describe, for each of these changes,
  - Why the change is needed
  - What the change is
  - How the change will affect telecommunications equipment
  - How the change will affect dialing
  - What is the schedule for the change, and where are we today

Objectives For This Unit (2)

- Describe the impact of competition on numbering by examining
  - How N11 codes should be used
  - Numbers for personal comunications services
- Discuss, in the context of the above,
  - How numbers are allocated to new services
  - Who gets very limited resources
  - How contentious issues get escalated and resolved
- Discuss Bellcore's stated intention to relinquish its role as numbering administrator
  - Why are they giving it up?
  - How will a new administrator be selected?
  - What has happened to date?

Anticipated Numbering Changes

- Increasing the supply of area codes
- Expanding carrier identification codes
- Allowing longer telephone numbers
- Introducing area codes by overlaying existing ones

How Many Area Codes Are There?

- Recall that the NANP format is:

  N0/1X - NNX - XXXX

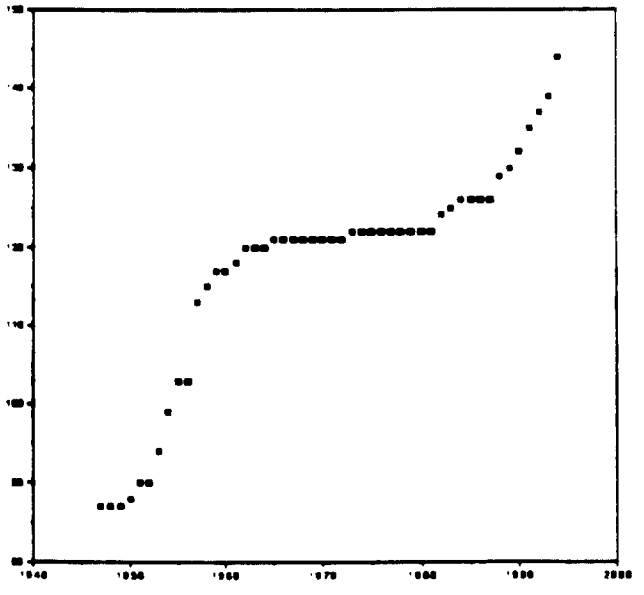
  where N = any digit 2-9, X = any digit 0-9, and 0/1 is 0 or 1.

- The number of area code combinations permitted in this format is

  8 * 2 * 10 = 160

- Not all of these codes are used as area codes. Excluded are the eight N11 codes and the eight N00 codes.
- 144 combinations remain, and all of them have been assigned.

Area Code Assignments



Creating More Telephone Numbers

- In the original design of the NANP:
  - Area codes had a middle digit of 0 or 1.
  - Central office codes had a middle digit of 2-9.
- This arrangement allowed telephone switches to distinguish between seven- and ten-digit numbers simply by examining the second dialed digit.

The Concept Of Interchangeable Codes

- In the 1960s, a two-phase plan was established to expand the supply of numbers by
  - Phase 1: Using the three-digit codes formerly reserved for area codes as central office codes, and
  - Phase 2: Using the three digit codes formerly reserved for central office codes as area codes.
- The expansion plan is known as the interchangeable code plan.
  - Phase 1, sometimes referred to as the "introduction of interchangeable central office codes," was first applied in the 213 area in 1971.
  - Phase 2, sometimes referred to as the "introduction of interchangeable area codes," will be implemented in 1995.

The Impact Of Interchangeable Codes (1)

- Switching equipment must be capable of processing the new codes. Problems reported to date include
  - Inability of the equipment to accept area codes with a middle digit of 2-9 or central office codes with a middle digit of 0 or 1, and
  - Limitations in the maximum number of area codes or central office codes allowed.

The Impact Of Interchangeable Codes (2)

- Introducing interchangeable codes (Phase 1 or Phase 2) causes a problem for the switch:
  - How does the switch know when the caller has finished dialing?
  - Previously the switch could examine the second dialed digit to determine if a seven-digit or a ten-digit number is being dialed.
  - Once interchangeable codes are introduced, this is no longer feasible.

Solution #1: Timing

- How it works:
  - The switch begins four-second timing after receiving the 7th dialed digit.
  - If no further digits are received after four seconds, the switch assumes dialing is complete and processes the call.
- Remarks:
  - No dialing changes are required.
  - Timing delays all local calls by four seconds.
  - Misdials will occur if callers pause at the wrong time during dialing.
- Bottom line: Timing is not recommended.

Solution #2: The Prefix Method

- How it works:
  - Ten-digit numbers are always preceded by the prefix 1 (or 0).
  - Seven-digit numbers are always dialed without a prefix.
- Remarks:
  - The prefix method has already been implemented virtually throughout the area served by the NANP.
  - Dialing 1 + seven digits for home NPA toll calls no longer works once interchangeable codes are introduced.
- Bottom line: The prefix method is recommended.

Home NPA Toll Calls

- NPAs in which home NPA toll calls are dialed as 1 + seven digits must establish new dialing procedures for these calls prior to the introduction of interchangeable codes. The commonly implemented choices are:
  - Seven digits (eliminate the prefix 1)
  - 1 + ten digits (including the home NPA code)
- A variant of the 1 + ten digit plan is used in Washington, DC and some other places.
- For many years Bellcore has recommended the seven-digit option, with permissive acceptance of the 1 + ten-digit option, in areas with modern switching equipment.

A Standard Dialing Plan?

- Since this is a dialing issue, state public utility commissions have jurisdiction in making the choice.
- Dialing plans vary from state to state.
- The National Association of Regulatory Utility Commissioners (NARUC) has discussed the possibility of a standard dialing plan.
- They have agreed that permissive dialing of 1 + ten digits should be acceptable everywhere.

Where To Get More Information

- Contact your vendor or manufacturer to determine if your equipment requires modification to be compatible with these changes.
- NPA code assignments and dialing plans are summarized in Bellcore Information Letter 94/01-001, an annual report which is included with your materials.
- Bellcore also publishes information letters announcing NPA splits and overlays. If you require this information contact Claudette Keith, (201) 740-6792 to get on the distribution list.
- Bellcore also publishes extensive detailed information on NPA-NXX assignments, some of it tailored to the needs of PBXs and other customer premises equipment. A copy is included with your materials. Contact Bellcore's Traffic Routing Administration hot line on (201) 740-7500 for more information.

Carrier Identification Codes (CICs)

- In 1984 divestiture brought with it the need to identify carriers for inter-LATA calls. Carrier identification codes (CICs) serve this purpose.
- Equal access permits customers to presubscribe to the carrier of their choice. Callers can override presubscription and choose another carrier by dialing

  10XXX

  before the called number. XXX is the CIC that identifies the carrier chosen.
- Equal access could not be implemented overnight. As an interim step callers could access alternative carriers by dialing

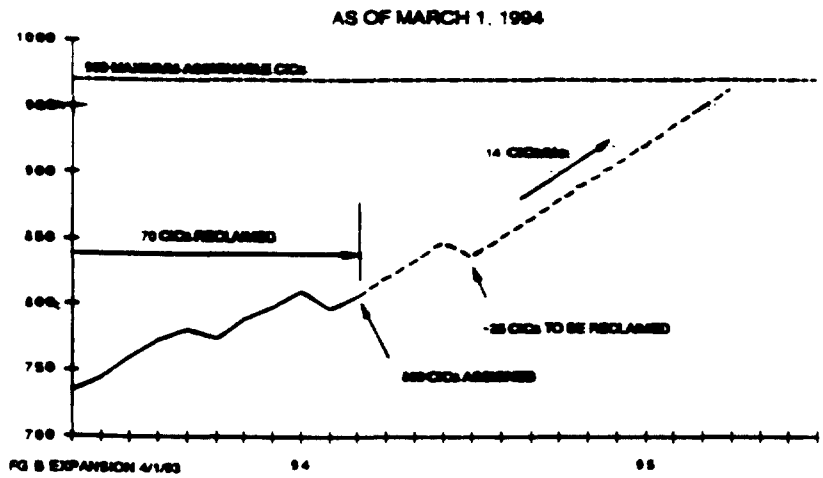
  950-0/1XXX

  where XXX is the CIC that identifies the carrier chosen.

The Supply Of CICs Is Exhausting

- Creative uses were found for 950 dialing:
  - It provides a uniform seven-digit number that can be used anywhere.
  - Some businesses view a seven-digit 950 number, which appears to be a local number, as an advantage.
  - It can be combined with software to provide sophisticated routing.
- Creative uses were found for CICs:
  - They allow segregation of traffic for routing and billing.
  - They became a basic adjunct of other forms of access; e.g., 800 service.
- The FCC ruled that you didn't need to be a carrier to get a CIC. 1st Data Resources Decision (1986)

CIC Assignment Summary



CIC Expansion

- On April 1, 1992, two separate pools of CICs were established: one for 950 dialing and one for 10XXX dialing.
- On April 1, 1993, CICs for 950 dialing were expanded to four digits, and the dialing pattern became 950-XXXX.
- Expansion of CICs for 10XXX dialing will occur when the supply of three-digit codes exhausts. Exhaustis projected to occur sometime between the fourth quarter of 1994 and the middle of 1995.
- When exhaust occurs, CICs for 10XXX dialing will expand to four digits, and the dialing pattern will become 101XXXX.
- There will be a permissive period during which 10XXX dialing can continue to be used. The FCC will determine the length of the permissive period.

The Impact Of CIC Expansion

- The expansion from 10XXX to 101XXXX dialing may affect customer premises systems.
- Check with your manufacturer/vendor to determine what changes need to be made, if any.
- Announcements relating to the expansion of CICs will be made through Bellcore Information Letters. Call Claudette Keith on (201) 740-6792 to get on the distribution list for these letters.

Time "T"

- Effective 1/1/97, international standard E.164 will change. On that date :
  - The maximum length of telephone numbers (including the country code) will increase from twelve to fifteen digits, and
  - The number of digits to be analyzed for routing purposes will increase from four to seven.
- There are no plans to change the length of telephone numbers in the US.
- It is strongly rumored, however, that other countries may do so.
- Should this happen, your equipment may have to register more digits than it does today for international calls to these countries.

Overlays

- In an overlay, a new area code is "stacked" on top of one or more existing geographic area codes.
- Overlay codes are not dedicated to any specific service or industry segment.
- The first overlay was established in New York City in 1992, where the 917 code overlays the 212 and 718 codes.
- Another overlay will be implemented in Southern California in 1996. Area code 562 will overlay the existing 310, 213, and 818 codes.

N11 Codes

Use of Limited Resources

- Current national assignments:
  - 411 local directory assistance
  - 611 repair
  - 811 business office
  - 911 emergency
- Seeking national assignments:
  - Enhanced service providers
  - Hearing impaired
  - GSA
  - Crisis intervention centers

500 Numbers For PCS

Numbers for New Services

- PCS is some combination of
  - Personal mobility
  - Terminal mobility
  - Service profile management
- Non-portable service to be implemented initially
  - 500-NXX codes assigned to service providers
  - Service providers assign numbers to their customers
  - Change in provider requires change in number

500 Code History

12/91	AT&T requests assignment of N00 codes.
3/92	ICCF establishes workshop to develop assignment guidelines. Target completion date 11/92.
11/92	Guidelines not completed. Applicants cite urgent need.
3/93	NANPA coordinates development of urgent need statement.
6/93	NANPA notifies FCC of its intention to begin assignments.
8/93	FCC directs NANPA not to make assignments and puts issue out for comment.
11/93	Completed guidelines approved by ICCF.
5/94	FCC releases hold on assignments.
7/94	Assignments begin. 7/11/94 - assignment

500 Open Issues

- Access
  - To be negotiated
- Charging
  - To be negotiated
- Portability
  - INC workshop addressing architecture and implementation plan

Bellcore's Continuing Role

- On August 16, 1993 Bellcore indicated its intention to withdraw from its role as administrator of the numbering plan, but promised to stay long enough to permit selection of a replacement and an orderly transition.

FCC Involvement

- NOI released October 29, 1992, CC Docket 92-237, asked how and by whom the numbering plan should be administered.
- NPRM released April 4, 1994, tentatively concluded:
  - Single non-government entity as administrator,
  - FCC should impose fees to recover costs of regulating numbering resources.
- NPRM also asked for comments on:
  - An oversight board to assist in creating policy and resolving disputes,
  - Centralizing central office code assignment,
  - Imposition of fees to finance administration.

Industry Involvement

- The Future of Numbering Forum (FNF) has examined several key issues:
  - How numbering plan administration can be equitably funded by the industry, and
  - The roles and responsibilities of the administrator and other involved groups; e.g., industry forums, regulators.
- The FNF has suspended its work pending FCC direction to continue.

Responsibilities Of The Administrator(s)

- Administer numbering resources fairly and impartially to the mutual benefit of users and service providers throughout World Zone 1
- Work cooperatively with standards bodies, industry forums, national and international organizations, and appropriate government agencies having an interest in numbering issues
- Ensure that code conservation techniques are employed in the utilization and assignment of numbering resources
- Maintain the availability of numbering resources
- Adapt the numbering plan to the changing requirements of telecommunications industry users and service providers

Potential Administrators

- Industry group; e.g., the Alliance for Telecommunications Industry Solutions (ATIS)
- Non-profit group; e.g., the National Exchange Carriers Association (NECA)
- Government agency; e.g., the FCC
- Non-industry-affiliated company
- Independent consultant
- University group

Transition Issues

- The transition must not interfere with the successful implementation of the coming changes.
- The administrator must be both competent and sufficiently empowered to prevent premature exhaust of the numbering plan.
- The numbering plan must continue to serve the needs of the eighteen nations that participate in it.
- The cost of numbering administration must be shared equitably by the industry.