Before the FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Numbering Resource Optimization	)	CC Docket No. 99-200
	)	
Connecticut Department of Public Utility Control Petition for Rulemaking to Amend the Commission's Rule Prohibiting Technology-Specific or Service-Specific Area Code Overlays	)	RM No. 9258
	)	
Massachusetts Department of Telecommunications and Energy Petition for Waiver to Implement a Technology-Specific Overlay in the 508, 617, 781, and 978 Area Codes	)	NSD File No. L-99-17
	)	
California Public Utilities Commission and the People of the State of California Petition for Waiver to Implement a Technology-Specific or Service-Specific Area Code	)	NSD File No. L-99-36

To: The Commission

COMMENTS OF Gilbert J. Yablon

On June 2, 1999, the Federal Communications Commission issued a Notice of Proposed Rulemaking in Docket No. 99-200, seeking comment on Numbering Resource Optimization methods designed to increase the efficiency with which telecommunications carriers use telephone numbering resources. In response to this notice, I respectfully submit comments on the following items:

I. mandatory ten-digit dialing
II. area code relief
III. area code splits
IV. area code overlays
V. 8-digit dialing for overlays (fully described in the attached document).

Summary of attached document:
The attached document entitled *"Comments of Gilbert J. Yablon Regarding 8-digit Dialing For Overlays, Filed Pursuant to ALJ Timothy Kenney's Ruling of June 29, 1999"* is an in-depth discussion of a simplified 8-digit dialing system for overlaid area codes. The document describes how 8-digits can be used to dial standard 10-digit telephone numbers for all calls within overlay regions. Technical, regulatory and human factors issues are discussed, and responses are given to comments from two telecommunications industry reviews. The document was originally submitted to the California Public Utilities Commission on July 23, 1999, in the matter of the California Commission's Order Instituting Rulemaking on the [California] Commission's Own Motion regarding [California] Commission Policy on Area Code Relief, Rulemaking R.98-12-014 (filed December 17, 1998).

I. Mandatory ten-digit dialing.

Mandatory ten-digit dialing is a great way to simplify network and number administration issues for the telecommunications industry, however it creates disruption, expense and hardship for the consumer. The FCC and the telecommunications industry are already aware that "there is often significant customer resistance to ten-digit dialing."[1] Rather than interpret customer resistance as something that is slowing the evolution of the telephone network and getting in the way of progress, the telcos should be encouraged to listen to what their customers are asking for. It is reasonable for customers to expect that technology and competition should make using the telephone simpler -- but instead, the telephone experience is becoming more difficult.

Ten-digit dialing is undesirable from a customer's perspective, and the reasons listed in FCC 99-122 in paragraphs 122 - 129 do not justify a national mandate for ten-digit dialing. For instance:

Paragraph 122 states:

"... where overlays are used, ten-digit dialing is required not only between the original NPA and the overlay NPA, but also within each NPA, to prevent anti competitive impacts on new entrants that may have few or no numbers in the original NPA." This statement overlooks the fact that dialing parity could be maintained between overlaid area codes without requiring 10-digits to be dialed, in fact, dialing parity can be maintained with only 8-digit being required. A full discussion of the 8-digit overlay is provided in the attached document, but the following brief explanation describes the basic concept:

> To make eight-digit dialing possible, telephone companies would assign a one-digit identifier to each area code in the overlay region. Customers could then dial local 7-digit telephone numbers and use an 8th digit to identify the area code. For example, the 310 area code would be identified by "0" and the "424" area code would be identified by "1". Dialing 1234567-0 would direct the call to the 310 area code, and dialing 1234567-1 would direct the call to the 424 area code. Telephone numbers in future overlaid area codes in the region could be dialed using 1234567-2, 1234567-3, etc.[2]

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[1] quoted from paragraph 122 of FCC 99-122.

[2] Dialing with "area code selectors" in this manner would not require changes to the North American Numbering Plan. The new 8th digit is merely used for dialing purposes and does not become a part of the actual NANP telephone address.

Given that dialing fewer digits is important to consumers, serious investigation of this consumer friendly 8-digit overlay variation is warranted.

Paragraph 123 states:

"Mandatory ten-digit dialing works as a numbering optimization measure by freeing up more numbering resources for use, through the reclamation of protected codes." This is a weak justification for 10-digit dialing, since even the referenced footnote (#203) states that *"... protected codes... may be reclaimed without regard to whether mandatory ten-digit dialing is implemented."*

Also in paragraph 123:

"Mandatory ten-digit dialing works as a numbering optimization measure .... potentially through permitting the use of either "0" or "1" as the first digit of an NXX code (the fourth, or "D" digit, of a ten-digit telephone number)." The only justification for mandating 10-digit dialing nationwide would be to enable the release of the "D" digit, however 10-digit dialing should be considered as the last step in this process, instead of the first. Since the infrastructure does not currently exist to allow for "D" digit release, the industry should concentrate on making the necessary changes to the network first, and then require 10-digit dialing only after the network is prepared. Doing otherwise will needlessly inconvenience customers much earlier than is actually necessary. And, if 10-digit dialing is required as a first step, and it turns out that the "D" digit never actually gets released, conversion to 10-digit dialing would have been completely unnecessary, and the consumer needlessly inconvenienced.

Also in paragraph 123:

"Moreover, the adoption of ten-digit dialing on a nationwide basis might eliminate disincentives for states to adopt overlays." As mentioned earlier, 8-digits could be used to make overlays less objectionable. This 8-digit overlay might be viewed by the public as a relief option they can feel comfortable with., as it allows customers to keep their phone numbers, and only requires dialing one extra digit.

Paragraph 124 discusses possible benefits:

"Ten-digit dialing would allow future area code relief projects, particularly overlays, to be less disruptive to consumers." The idea of disrupting everyone now so that future disruption to local regions will not seem so bad, could not have been conceived with the best interests of the consumer in mind. It is not logical to penalize all customers in order to simplify things service providers. *"Bell Atlantic Mobile states that mandatory ten-digit dialing may foster new and different uses for NPA overlays."* Compelling examples should be given of what these new and different uses might be, before telling customers they have to give up something (7-digit dialing) that they already appreciate. *"Moreover, if ten-digit dialing were adopted as part of a national numbering optimization policy, customer confusion resulting from inconsistencies in dialing patterns from one area to another would be eliminated."* Other methods could be used to provide a uniform dialing method, such as 1+10 digit dialing on a permissive basis. *"PageNet also believes that ten-digit dialing would lower costs and reduce entry barriers, which, in turn, could result in lower prices and increased product and service innovation for all consumers. GTE further states that ten-digit dialing will prevent discrimination among service providers."* How much lower would the costs be? What is 7-digit dialing worth to today's customer? Would the overall savings be more than a few dollars per year for each customer? Customers might be reluctant to give up a free service that they are already happy with, in order to obtain possible, undefined future paid services that they might have no need for.

Paragraph 125:

This paragraph describes some of the disruptive effects of mandatory 10-digit dialing. It should be noted that there are many apparent disadvantages surrounding the concept..

Paragraph 126:

This paragraph seeks comment on whether the FCC should adopt nationwide ten-digit dialing, or whether states should be encouraged to implement 10-digit dialing as a priority. As noted in my earlier comments, there is no technical necessity to

implement 10-digit dialing in any circumstance, and it should not become a nationwide policy, nor should states be encouraged to implement it as a priority. Alternatives can be used, such as the 8-digit overlay described in these comments, to address all of the situations where 10-digits have been used with area code relief measures. The 8-digit overlay is a compromise that would serve both the telcos and the consumer.

Paragraph 127:

As expressed in my previous comments on "D" digit release, 10-digit dialing should be required as the final step in the process, rather than the first. Otherwise, the industry may find shortly after the introduction of 10-digit dialing that "D" digit release is not possible, or is not necessary, and therefore consumers will have given up simpler dialing patterns for no reason. Also, "D" digit release will only provide another 25% more numbers to the NANP. Considering how quickly the current NANP is being wasted, 25% will only provide another two to four years of resource before NANP expansion is required anyway. It is far more important to address the exhaust problem by using conservation measures (like number pooling and rate center consolidation) than to rely on expensive short term fixes like "D" digit release.

Paragraph 129:

MCI's concerns about how "D" digit release could hamper more orderly expansion of the NANP in the future should be given full consideration. The "D" digit is the key identifying characteristic of the current NANP, and any seamless transition the a future expanded NANP will depend on switches being able to easily distinguish between current NANP and expanded NANP numbers. The current form of the "D" digit allows for this, while premature release will not.

when everything is prepared to take advantage of the This is an example of putting the cart before the horse. The industry has suggested mandatory 10-digit dialing as the first step toward being able to release the "D" digit, however, it would seem to make more sense to prepare the infrastructure first (e.g. by making the changes to the network systems that would allow for "D" digit release), before subjecting consumers to 10-digit dialing

II. Area Code Relief
III. Area Code Splits
IV. Area Code Overlays
V. 8-Digit Dialing For Overlays (Fully Described In The Attached Document).

My comments on the four above topics can be summarized as follows:

Area code relief should be provided in a manner that is least disruptive for the public. As Commissioner Gloria Tristani states at the end of FCC 99-122:

"The Commission must act expeditiously to relieve the burden not only on the state commissions developing area code relief plans but most importantly on consumers, who face enormous costs and inconvenience each time area code relief is implemented. The carriers that serve these consumers have a vital role to play in forging solutions to promote efficient allocation and use of numbering resources. Accordingly, I urge telecommunications carriers and state commissions alike to participate in this proceeding to help craft a solution that will prevent the exhaust of our North American Numbering Plan."

I hope that the comments I have provided herein, and the information in the attached document regarding the 8-digit overlay, offer a point of view that will help regulators and telcos resolve the crisis that we are all currently enduring.

Respectfully submitted,

By _____
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July 30, 1999

ATTACHMENTS

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's Own Motion Regarding Commission Policy on Area Code Relief.	R 98-12-014 (Filed December 17, 1998)

COMMENTS OF GILBERT J. YABLON REGARDING 8-DIGIT DIALING FOR OVERLAYS, FILED PURSUANT TO ADMINISTRATIVE LAW JUDGE TIMOTHY KENNEY'S RULING OF JUNE 29, 1999

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July 23, 1999

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's Own Motion Regarding Commission Policy on Area Code Relief.	R 98-12-014 (Filed December 17, 1998)

COMMENTS OF GILBERT J. YABLON REGARDING 8-DIGIT DIALING FOR OVERLAYS, FILED PURSUANT TO ADMINISTRATIVE LAW JUDGE TIMOTHY KENNEY'S RULING OF JUNE 29, 1999

The June 29, 1999 ruling by Administrative Law Judge Timothy Kenney instructed me to provide comments and detailed information pertaining to my May 4, 1999 *Motion to Have the Commission consider "A Simplified Dialing system for Overlaid Area Codes" AKA "The Unified Dialing Plan for Overlays"* (hereafter referred to as the "plan," the "8-digit overlay", the "SMART Overlay" or "the system").

Judge Kenney specified that I provide information on the following topics:

- A thorough description of 8-digit dialing.
- A statement of whether 8-digit dialing conforms with the NANP. If Yablon asserts that 8-digit dialing conforms with the NANP, he must present evidence and arguments in his comments that support his assertion.
- A statement of whether the Commission has authority to implement 8-digit dialing. If Yablon asserts that the Commission has such authority, he must present evidence and arguments in his comments that support this assertion, including why the Commission's authority is not preempted by the FCC pursuant to 251(e) of the act.
- A detailed showing that 8-digit dialing is feasible. This showing should address the following factors: (1) the scope of changes to the telecommunications network (e.g., switch modifications) that are required to implement 8-digit dialing; (2) the cost to telephone companies to implement 8-digit dialing; (3) the cost to the public to implement 8-digit dialing; (4) customer confusion, customer education, and the cost of customer education; and (5) compatibility with existing and planned overlays.

- A thorough explanation as to whether 8-digit dialing is compatible with local number portability.
- A thorough explanation as to whether 8-digit dialing is compatible with number conservation measures, such as number pooling and rate center consolidation.
- Whether 8-digit dialing can be used in conjunction with hexa-decimal dialing [as proposed by Bill Neill].
- A description of the two telecommunications industry reviews of 8-digit dialing [that were previously conducted]. Yablon shall append to his comments a copy of any formal reports and / or findings that resulted from these reviews. Yablon may also provide information that demonstrates why the concerns raised in the industry reviews are unwarranted.

I will address these issues in the order listed above.

- **A Thorough Description of 8-Digit Dialing:**

Background:

Before describing the 8-digit overlay dialing system, it is important to first establish the need for implementing it.

Until recently, area code relief was almost always provided through the use of area code splits. But splits are disruptive, frustrating and expensive for customers because they require half of the subscribers in a region to give up their established telephone numbers. Customer dissatisfaction with the splitting technique prompted overlays to be developed as an alternative.

Unlike area code splits, overlays can provide area code relief without requiring customers to change their phone numbers. This would seem to be a great advantage, but the requirement that 10-digits (or 1+10-digits) be dialed for all overlay calls has delivered a new form of disruption, frustration and expense to telephone users anyway. For customers, it merely seems like one set of problems has been exchanged for another, but going back to using disruptive area code splits in order to avoid overlay related problems is not a satisfactory solution. The problems have resulted from the way that overlays are currently implemented. Fortunately these problems can be resolved by enhancing overlays with some consumer friendly modifications.

The Plan:

The 8-digit dialing system for overlays resolves overlay related dialing problems by providing customers with two tools to make living with overlays easier. First, it offers a shortcut "8-digit method" for dialing 10-digit (or 1+10-digit) telephone numbers within the region; and second, it prevents calls dialed with only 7-digits from being rejected.

To make eight-digit dialing possible, telephone companies would assign a one-digit identifier to each area code in the overlay region. Customers could then dial local 7-digit telephone numbers and use an 8th digit to identify the area code. For example, the 310 area code would be identified by "0" and the "424" area code would be identified by "1". Dialing 1234567-0 would direct the call to the 310 area code, and dialing 1234567-1 would direct the call to the 424 area code. Telephone numbers in future overlaid area codes in the region could be dialed using 1234567-2, 1234567-3, etc.[1]

Telephone company equipment would be modified to expect 8-digits to be dialed. After the 8th digit is entered, the equipment would determine which area code has been selected. The 8-dialed-digits would then be converted to the proper 1+10-digit telephone address before being passed through the switch. The number enters the network as if the customer had originally dialed it as 1+10-digits.

But what happens when a customer or auto-dialer enters only 7-digits? In a "standard overlay", customers hear an announcement directing them to hang-up and redial using 1+10-digits -- a huge inconvenience (and a disruptive dead-end for auto-dialers programmed with only 7-digits). But with the 8-digit overlay, customers who forget about (or don't know about) the 8th digit would hear an announcement after a few seconds to help them complete their calls:

"To reach the 310 area code, dial "0" now. To reach 424, dial "1" now." [2]

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[1] Dialing with "area code selectors" in this manner would not require changes to the North American Numbering Plan. The new 8th digit is merely used for dialing purposes and does not become a part of the actual NANP telephone address (see ATTACHMENT 1).

[2] This is only one of several ways that the 8-digit protocol might be implemented. Different timing intervals and/or other announcement wording might be more appropriate. Focus group testing might even demonstrate that no announcement is needed at all (see ATTACHMENT 2A for full description of a version of the plan that may not need to use announcements).

Customers would have a few more seconds to enter the 8th digit, and after doing so their calls would be routed to the selected area code.[3]

Even if a customer used an auto-dialer programmed with only a 7-digit number, the 8th digit could be entered manually by the customer either before, during or after the announcement.

If for some reason the "8th digit" is still not entered, the call would default to the original area code of the region (in this case the 310 area code).[4] This default "safety-net" reduces the need for customers to reprogram or replace automated dialing devices (such as security building entry systems and other unattended auto-dialers)[5], and minimizes the kind of disruption that occurs when "standard overlays" are implemented. It also ensures that calls made by children or other people who might only know an established number as 7-digits, will not be rejected.

Calls "to" and "from" area codes that are outside of the 8-digit overlay region will continue to require 1+10-digits to be dialed (the same as was required before the overlay).[6]

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[3] There is no need to wait for the announcement before entering the 8th digit. Customers who are already aware of the plan would probably never hear this announcement since entry of the 8th digit would signal that the dialing string is complete, and the announcement would not be triggered.

[4] The "original" area code appears to be the logical choice to use for the default since the "original" area code would be the only area code in the region where 7-digit numbers had ever been valid. Calls to the newer area codes would never have been programmed or dialed with 7-digits since 8-digit or 1+10-digit dialing would always have been the only ways to dial these numbers. If a call is dialed with only 7-digits, telephone company equipment could assume with relative certainty that the call is intended for the "original" area code. A call of this type would have probably come from a pre-programmed auto-dialer, or would have been dialed by a child or someone who only knows the telephone number as 7-digits. Even though these types of calls can be completed by dialing only 7-digits, no dialing advantage is actually provided. Customers from all of the area codes within the region can dial these numbers in the same manner, and, the long delay after entering the 7th digit actually makes this a disadvantageous way to dial. Eight-digit calls and even 1+10-digit calls can be completed more efficiently. The true purpose for allowing 7-digit calls to default to the original area code is to prevent customers who already have an investment in the original area code from being penalized by a change to the dialing plan.

[5] This turned out to be a real problem in the 310 overlay. See ATTACHMENT 6 for an L.A. Times article on the subject.

[6] If the new "area code identifier" is inadvertently entered at the end of a 1+10-digit call, the identifier is ignored and the call completes to the 1+10-digit number that was dialed.

Customers always have the option of dialing 1+10-digits if they want to (even for local calls within the overlay region), but the 8-digit shortcut should make local calls easier for most customers.[7]

Variations:

This 8-digit overlay system can be adapted to any region within the NANP. It will work regardless of whether the dialing pattern to neighboring area codes requires 1+10-digit dialing (as in California) or 10-digit dialing (as is the case in most other parts of the NANP).

In regions where standard overlays have already been implemented, the 7-digit default "safety-net" may not be necessary. Since all 7-digit dialing patterns would have already been disrupted and abandoned, there would be no reason to preserve it. However, the 8-digit dialing feature could be offered by itself, and would provide customers in established overlay regions with an easier way to dial.

Implications:

Not only does the 8-digit dialing format require fewer digits to be dialed, but the dialing order of the number will also help to prevent misdials and customer frustration. In standard overlays, for instance, many customers habitually dial familiar 7-digit numbers and end up having to re-dial using 1+10-digits. In the 8-digit overlay, habitual dialing of 7-digit numbers is not a problem. After dialing 7-digits, customers enter the one-digit area code selector. If they forget, the announcement will remind them, and the call will be completed without frustration. Since 1+10-digit dialing is also supported for all calls, customers will never have to hang up and redial -- regardless of the format they begin dialing with.

The 7-digit default "safety-net", while offering no dialing advantage (because of the long delay), provides a way for calls from unattended auto-dialers to complete without reprogramming or replacement. Backward compatibility with previously established dialing patterns is maintained, minimizing customer frustration and expense.

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[7] Refer to ATTACHMENTS 2A and 2B for more details about this 8-digit dialing system for overlays.

The Commission's recent experience with the 310 overlay demonstrates that overlays can be a source of hardship and frustration for telephone users. The Commission also has vast experience with customers who are dissatisfied with area code splits -- which is why overlays have been considered in the first place. In their current form, neither relief option provides a satisfactory solution for telephone customers. In light of the above, investigation and consideration of the 8-digit overlay seems reasonable because it offers a way to implement area code relief with virtually no disruption, hardship or customer frustration.

A Statement Of Whether 8-Digit Dialing Conforms With The NANP. If Yablon Asserts That 8-Digit Dialing Conforms With The NANP, He Must Present Evidence And Arguments In His Comments That Support His Assertion.

Statement:

This 8-digit dialing system for overlays does not alter the ten-digit structure of the NANP in any manner, and therefore the plan does completely conform with the North American Numbering Plan.[8] The new 8th digit is only used for dialing and does not become part of the actual NANP telephone address.

The NANP is a numbering plan -- not a dialing plan, and though its format suggests logical groupings by which telephone numbers may be dialed, there appear to be no universal rules that define how NANP numbers must be dialed.

Evidence and Arguments:

The following description was taken directly from the NANPA website:

The NANP is the numbering plan for the Public Switched Telephone Network in the United States and its territories, Canada, Bermuda, and many Caribbean nations, including Anguilla, Antigua & Barbuda, Bahamas, Barbados, British Virgin Islands, Cayman Islands, Dominica, Dominican Republic, Grenada, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago, and Turks & Caicos.

NANP numbers are ten digits in length, and they are in the format:
NXX-NXX-XXXX

[8] See ATTACHMENT 1 for a statement, from a telecommunications industry numbering expert, which substantiates the claim that 8-digit overlays conform with the NANP.

Where N is any digit 2-9 and X is any digit 0-9. The first three digits are called the numbering plan area (NPA) code, often called simply the area code. The second three digits are called the central office code or prefix. The final four digits are called the line number.

Regional dialing plans have often been tailored to the specific needs of the communities where the NANP is implemented, as the following examples illustrate.

- In California, NANP numbers are typically dialed in the following formats:
  1 + NXX-NXX-XXXX (1 + the full ten digit number)
  NXX-XXXX (just the "prefix" and the "line number" -- the last seven digits).

- However, in most other states the dominant dialing format is as follows:
  NXX-XXXX for non-toll calls within the same area code.
  NXX-NXX-XXXX for non toll calls to a neighboring area code.
  1+NXX-NXX-XXXX for all toll calls, regardless of area code.

- And until recently, in many regions local calls to neighboring area codes could be dialed with just 7-digits -- the area code was not required unless the call was a toll call. This dialing feature was made possible through the use of "protected codes".

- In some rural areas of the NANP there are regions where a single prefix serves an entire rate center. In these regions telephone numbers are sometimes dialed in the following format:
  XXXX (just the "line number" -- the last four digits).

- And, when there are only a few prefixes in a region, 5-digit dialing is sometimes permitted:
  X-XXXX (just the last digit of the "prefix" and the four digit "line number")

- Other types of dialing are supported by many telephone companies through the use of "custom calling services". For instance "speed calling" is a "custom calling service" that lets subscribers dial calls by using only one-digit or one-digit and the "#" key, and in the near future voice recognition may allow calls to be dialed without entering any digits.

Clearly, there has always been a focus on finding ways to minimize the number of digits that customers are required to dial. The way that overlays are currently implemented is actually a departure from tradition. Customers would clearly prefer to dial fewer than 10-digits for overlay calls, and the 8-digit overlay provides a way -- within the numbering constraints of the NANP -- to do it.

A Statement Of Whether The Commission Has Authority To Implement 8-Digit Dialing. If Yablon Asserts That The Commission Has Such Authority, He Must Present Evidence And Arguments In His Comments That Support This Assertion, Including Why The Commission's Authority Is Not Preempted By The FCC Pursuant To Section 251(e) Of The Act.

Statement:

The 8-digit dialing system for overlays is a local dialing plan, and does not affect dialing or switching anywhere outside of the region where the plan might be implemented. All costs and modifications to equipment are also confined to the local region, and the plan does not require altering the 10-digit format of the NANP in any manner. The way the plan works is similar to the way a "custom calling service" works. It can be thought of as a feature that would be added to the services available in a California overlay region, and would have no more impact on the rest of the telecommunications network than a simple feature like "Speed Calling" or "Repeat Dialing".

Because the impact of the 8-digit overlay is local in nature, and isolated from the rest of the telecommunications network, the California Commission may already have the authority to implement it. However, there is one issue that may or may not have to be addressed first.

Section 251(e) of the Act pertains to "Numbering Administration" and "Number Pooling", and does not make reference to the FCC's authority concerning how numbers may be dialed.[9] The only dialing restrictions implied anywhere by the Act pertain to the issue of "dialing parity".

Dialing parity is a mandate requiring telecommunications providers to ensure that all customers within a region have equal access to all telecommunications services, regardless of which service provider the customer subscribes to. This "equal access to services" mandate extends to "equal dialing for services", in that no subscriber in a region should have to dial any extra digits to obtain an equal service.

Overlays presented a dilemma for the FCC. Even though 10-digit (or 1+10-digit) dialing is currently necessary for calls between area codes in an overlay, there is no technical reason why 7-digit dialing can't be used for calls within the individual area codes of the overlay. But the FCC determined that allowing this type of dialing pattern within

[9] see ATTACHMENT 3 for the full text of Section 251(e) of the act. No reference is made to restrictions pertaining to dialing plans in that section.

overlays would violate the mandate for dialing parity -- customers would have to do something extra in order to dial customers or services that were not within their own area code. Many competitive and regulatory issues would be triggered by the dialing inequity that 7-digit / 10-digit overlays would create. To resolve this dialing imbalance, the FCC mandated dialing parity for overlays. The only tool available at that time for providing dialing parity in an overlay was to require mandatory 10-digit (or 1+10-digit) dialing for all calls.

Unfortunately, solving the dialing parity problem for service providers created a dialing hardship for subscribers. The 8-digit overlay, which was not available to the FCC when 10-digit dialing was mandated, solves the dialing parity problem without creating dialing hardship.

In March of 1998, I contacted the FCC's Common Carrier Bureau and inquired how to go about requesting that the FCC modify the 10-digit mandate. I spoke with Ms. Erin Duffy and Mr. Greg Cooke. I told them that I had developed an alternate way of providing dialing parity in overlays which would only require 8-digits to be dialed. They researched procedures, and Mr. Cooke later informed me that the FCC constantly considers new information and technologies that have a bearing on previous decisions. Mr. Cooke said that there are two avenues by which the FCC could be petitioned to consider a waiver on their 10-digit ruling. One avenue would be through a request from the North American Numbering Council (NANC) and the other avenue would be a request from a State Commission.

After obtaining this information I contacted the Telecommunications Division of the CPUC, and spoke with Ms. Risa Hernandez. I requested assistance in pursuing the wavier. Ms. Hernandez did some research and informed me that she had spoken with Mr. Cooke, and that he confirmed what I had told her.

If the California Commission does not currently have the authority to implement the 8-digit overlay, a petition could be filed with the FCC requesting a wavier of the 10-digit requirement in order to implement an 8-digit system that achieves the same dialing parity goal (with less customer discontent).

A Detailed Showing That 8-Digit Dialing Is Feasible. This Showing Should Address The Following Factors: (1) The Scope Of Changes To The Telecommunications Network (E.G., Switch Modifications) That Are Required To Implement 8-Digit Dialing; (2) The Cost To Telephone Companies To Implement 8-Digit Dialing; (3) The Cost To The Public To Implement 8-Digit Dialing; (4) Customer Confusion, Customer Education, And The Cost Of Customer Education; And (5) Compatibility With Existing And Planned Overlays.

Statement of Feasibility:

Another name for the 8-digit overlay is "SMART" (**S**implified **M**ulti **A**rea Code **R**egion **T**elephony). All that it does is provide a simplified way to dial ordinary 10-digit telephone numbers in regions that have more than one area code (i.e., overlays). The SMART Overlay was designed to work within the current capabilities of the telecommunications network. It does not depend on developing new technologies, does not alter the 10-digit format of the NANP, and could be implemented in a short time frame and at a reasonable cost.[10]

Brief Operational Overview:

In SMART Overlay regions, telephone companies will assign a single digit to each area code in the region. Then, customers can dial normal 7-digit numbers, and use an 8th digit to select the area code. Using this system, up to ten overlaid area codes (0-9) can be addressed in each overlay region, and customers can dial just 8-digits for all calls within their region.

SMART works like a custom calling service. The service is triggered when telephone company equipment determines that an 8-digit number is being dialed. This test will be simple to implement, as it is the same test that is currently used to determine whether a 7-digit number is being dialed.

After the 8th digit is received, telephone company equipment examines the 8th digit to determine which area code the customer specified (referencing a simple ten entry lookup table). The equipment then converts the 8-dialed-digits into the "specified area code" + "7-digit number" (or 1 + "specified area code" + "7-digit number), and

[10] see ATTACHMENT 1 for expert statement regarding technical viability.

introduces the number to the network as if it had been originally dialed as a 10-digit (or 1+10-digit) number.

Announcements could be provided after the 7th digit to educate people who are unfamiliar with the plan. The announcement could instruct customers how to enter the area code selector digit. The following is an example of a announcement that could be used: ***To reach the 310 area code, dial "0" now. To reach 424, dial "1" now.***

If the 8th digit is not entered after a few more seconds, the call could be completed to the "original" area code, or, if regulators prefer, the call could be rejected as incomplete. If 7-digit calls are allowed to complete it would help minimize the disruption that normally accompanies area code splits and overlays. Preserving the established 7-digit dialing pattern in this manner would provide a "safety-net" to ensure that calls made by pre-relief unattended auto dialers would not be lost. It could also ensure that calls made by children or others who only know the number as 7-digits will still be able to complete. Even though calls of this nature can be made with only 7-digits, there would be no advantage to intentionally dialing this way. Because of the long delay (10 to 20 seconds after the 7th digit) it is more expedient to simply enter the 8th digit (even 1+10-digits would be faster). The only reason for offering this feature is to keep customers who already have an investment in the original area code (auto-dialers, security entry systems, etc.) from being penalized because of a dialing pattern change.

Scope of Changes to the Telecommunications Network:

As noted earlier in this document, any modifications to the telecommunications network that this plan might require, would be confined to the local regions where the plan is implemented. The exact modifications will depend on the specific equipment that is currently being used in the region. Since SMART is designed to be used with overlays, much of the work has already been done. The telecommunications industry has already designed "Multi Area Code Region Telephony", and all that SMART will do is simplify it. Telephone company equipment will have to be modified to support the following functions:

1) Create a ten entry lookup table, in which each area code in the overlay is given a one-digit identifier (there would be enough room for ten overlaid area codes 0-9).
2) Determine if an 8-digit number is being dialed, using the same system or logic that currently recognizes 7-digit numbers.
3) If necessary, provide an announcement after the 7th digit instructing those unfamiliar with the plan how to complete the call.
4) If the 8th digit does not get entered, assume that the 8th digit is "0" (this would force a default to the "original" area code).
5) Compare the 8th digit to the lookup table and determine which area code has been selected.
6) Convert the 8-dialed digits into a 10-digit number (or 1+10-digit number).
7) Send the number through the switch as if it had originally been dialed as 10-digits or 1+10-digits.
8) From this point on SMART has no impact on the network - it merely serves as a dialing helper.

It may very well be that the entire functionality of SMART could be provided in the same manner that "custom calling services" are currently provided. Companies like Lucent and Nortel could provide this functionality as an option in their switches or switching software.

It may also be the case that the functionality could be provided through the use of an intelligent peripheral that would be connected to existing switches.

Clearly there are many ways that the network modifications might be implemented. Though there has been a lot of resistance to this proposal from the telecommunications industry, several industry experts have indicated that this plan is technically workable, and that it could be "relatively simple" to implement. However, the exact methods and costs cannot be determined until a comprehensive technical evaluation and cost analysis is conducted by the telecommunications industry themselves.[11]

Wireless Considerations:

[11] see ATTACHMENT 1 for a telecommunications industry expert's evaluation.

It may require even less effort for wireless carriers to implement the 8-digit overlay. Since wireless customers transmit all of their dialed digits to the carrier at the same time, wireless telephone company equipment can immediately determine how many digits the customer has dialed, and act accordingly.

Recording and Billing Equipment Issues:

SMART acts as a pre-filter for dialing purposes only (much like the speed dialing feature that is built into many telephone company switches). The 8-dialed digits are converted to standard 10-digit (or 1+10-digit) telephone numbers before any of the digits are actually presented to the network for recording or billing services. Therefore SMART has no impact on these services.

Scope of Changes to CPE (Customer Provided Equipment):

One of the main advantages of this plan is that it minimizes the impact on devices such as speed dialers, burglar alarms, and auto dialers because it minimizes the need for reprogramming. With other forms of area code relief reprogramming is necessary if the numbers that were previously programmed are split off into a new area code, or when 7 digit numbers need converting to 10 or 1+10 (as would be the case if a standard overlay were implemented).

In many cases, a PBX or telephone key system might be unaffected by the plan since the suffix logic is handled at the network switch level. Some PBX software changes might be necessary to enable inspection and conversion of the 8th digit, or to allow release of the 8th digit. This might actually be less disruptive to a PBX than the changes that are necessary after a traditional area code split. Any problems that are caused may well be less significant than those created by recent changes that have been made to the NANP, i.e. PBX problems caused by 2-9 being used for the second digit of an area code and 0-1 being used for the second digit of a prefix.

Costs:

All forms of area code relief have costs associated with them. The measurable costs include telephone company costs, direct costs to local business, and direct costs to the

public. Loss of convenience (resulting in greater hardship) should also be factored in when evaluating the overall impact of a specific area code relief technique.

It is estimated that a single area code split costs local businesses between 20 and 40 million dollars, and the phone companies spend another 6 to 10 million per split. Some businesses indirectly lose revenues due to number changes, and the disruptive nature of the splitting technique has created hardship for businesses and consumers alike. All of this makes area code splitting a very expensive and undesirable relief option.[12]

Overlays are relatively new, and it is not yet clear what the overall cost of an overlay might be. In the long run it appears that overlays might be somewhat less expensive than area code splits, but it is clear that overlays do generate some immediate expenses as well as permanent inconveniences.[13] Recent experience with the 310 overlay reveals where some of the immediate costs come from. Burglar alarms, security building entry systems, elevator telephones, and every other type of auto-dialing device required reprogramming and / or replacing. Many small business and consumers spent a full day or two of lost productivity getting all of their telephone and computer equipment functioning properly with 1+10-digit dialing. And, the lingering inconvenience and frustration that has resulted from mandatory 1+10-digit dialing has taken an emotional and financial toll on the 310 community as well as state and city governments and the CPUC. The overall cost of the 310 overly will probably approach twenty to forty million dollars even though in theory overlays should be less expensive.

Given the current cost of the alternatives, the SMART Overlay has a pretty big budget to work with. Only the telecommunications industry will be able to determine the exact costs for implementing 8-digit overlays. In making their cost evaluation, the industry should determine the cost for the first SMART implementation (which would include system analysis, developing the software protocols and the actual cost for implementation), and then should determine what the cost of future SMART

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[12] see ATTACHMENT 7 and 8 for an articles covering costs and disruption due to area code splits.
[13] see ATTACHMENT 6 for an article on unexpected overlay costs.

implementations would be. Evaluating both of these figures together will determine the cost effectiveness of the plan.

Consumer group studies will help to determine the impact that the 8-digit overlay will have on local business and the public. However, given that the 8-digit overlay resolves many of the problems that customers face with area code splits and standard overlays, the cost to the public, both financial and emotional, should be minimal.

Clearly, with area code splits and standard overlays the public has been saddled with the majority of the overall costs. And in the long run, the public even ends up paying for the industry's costs as well. If analysis shows that the cost of the 8-digit overlay would not be significantly different than the cost of the alternatives, shouldn't the 8-digit overlay be considered as an option? That way the public would finally get some benefit from the money it spends on area code relief.

Customer Confusion:

Though the 8-digit overlay is different than current relief options, customer confusion might actually be less of a problem than it is with area code splits and standard overlays.

The concept of 8-digit dialing seems to be an intuitive solution that individuals constantly suggest as a way to resolve number shortages. ATTACHMENT 9 is a collection of Letters-to-the-Editor, all of which describe variations on the theme of 8-digit dialing. Unlike the 8-digit overlay, the plans described in these letters would involve expanding the format of the North American Numbering Plan (and therefore cannot be implemented at this time), however, providing new numbers in this manner makes immediate sense to the same subscribers who are baffled by the disruptive effects of area code splits and standard overlays. I don't recall ever seeing letters that sing praises for either of our current options, but I have seen many letters that ask "why are we doing it this way?"

The 8-digit overlay gives customers what they have been asking for -- everyone gets to keep their existing phone numbers and they only have to dial one extra digit for calls within their regions. Implementation of the 8-digit overlay is not hampered by the

same restrictions that apply to 8-digit plans that alter the 10-digit NANP address, and therefore it offers a technically workable way to provide area code relief with a minimum of disruption and customer confusion.

Even customers who are totally unaware of the new 8-digit dialing pattern would be able to complete calls without redialing. The announcement following the 7th digit would instruct customers how to enter the 8th digit.

Customer Education:

Customer education would be relatively simple for the 8-digit overlay because very little changes when the plan goes into effect. The steps outlined below describe how to convert non-overlay regions to 8-digit overlays.

- Flyers would be sent with monthly phone bills, describing the new dialing pattern.
- Customers would be told that a new digit has been added to the end of their telephone number.
- Customers would be told to remember their numbers as:

  (310) 1234567 - 0

- Customers will be told the "date" that permissive dialing of the new digit will begin.
- A sticker should be sent out with each telephone bill. The sticker should be applied to all telephones, and would say something like:

  8-digit dialing begins 7/17/99

  7 digit phone number + 0 = 310 area code

  7 digit phone number + 1 = 424 area code

- On the "date", a courtesy delay (of 1 or 2 seconds) would give customers an opportunity to practice entering the new 8th digit. Since there would be only one area code to choose from during the permissive period, there would be no need to actually enter the digit. During the permissive period, all calls have to be intended for the original area code because that's the only one that exists.

Customers can enter 1234567-0 and avoid the short delay. If customers only enter 1234567, they will have to wait an extra 1 or 2 seconds.

- As each month of the permissive period passes, the courtesy delay could be increased slightly. As the delay got longer, customers would be more motivated to skip the delay by entering the extra "0". Phone company literature, newspaper articles and PSAs would also continue to educate customers, and encourage them to enter the 8th digit.
- Perhaps around the 4th month of the permissive period, an announcement after the 7th digit could instruct customers who were still not entering the "0". The announcement might say something like: ***"To reach the 310 area code, you can avoid this delay by dialing "0" now."***
- At the end of the permissive period the new area code could be introduced. All telephone numbers from the new area code would always be distributed in the following form: (424) 1234567 - 1
- After the new area code is introduced, the announcement would be changed to something like:

  "To reach the 310 area code, dial "0" now. To reach 424, dial "1" now."
- When more area codes are added, the message will be expanded. In actual practice, the message will seldom be heard since most customers will have already entered the new 8th digit before the announcement is triggered.
- Note: If the new digit is inadvertently entered after dialing a 10-digit or (1+10-digit) number, it is ignored, and has no effect on dialing (the same as if you entered an extra digit today).

The Cost of Customer Education:

The cost of customer education would not be any higher than the cost incurred with a standard overlay, however it would probably be more effective. Since the 8-digit overlay actually helps customers complete their calls without having to redial, the education process will seem to be more successful.

Compatibility with Existing and Planned Overlays:

There is no reason why the 8-digit overlay cannot be implemented on top of existing overlays - in fact it is even easier to convert existing overlays. This system would even work well with the half implemented 310 overlay. The permissive period described above could be skipped. Eight-digit dialing could be seemlessly introduced in the following manner:

- Flyers would be sent with monthly phone bills, describing the new dialing pattern.
- Customers would be told that a new digit has been added to the end of their telephone number, and that 8-digit dialing would consist of dialing the 7-digit portion of their telephone number plus this new "8th" digit when making calls within their overlay region.
- Customers would be told to remember their numbers as:

  (310) 1234567 - 0
- Customers will be told the "date" that 8-digit dialing will be available.
- A sticker should be sent out with each telephone bill. The sticker should be applied to all telephones, and would say something like:

  8-digit dialing begins 7/17/99

  7 digit phone number + 0 = 310 area code

  7 digit phone number + 1 = 424 area code
- On the "date", customers could begin dialing with 8-digits if they wanted to. If for some reason they only dialed 7-digits, after a few seconds an announcement would provide the following instructions:

  "To reach the 310 area code, dial "0" now. To reach 424, dial "1" now."
- Customers don't have to ever use the 8-digit method if they don't want to. They can continue to dial with 1+10-digits if they prefer. Both types of dialing would be supported.
- When more area codes are added, the message will be expanded. In actual practice, the message will seldom be heard since most customers will have already entered the new 8th digit before the announcement is triggered.

- Note: If the new digit is inadvertently entered after dialing a 10-digit or (1+10-digit) number, it is ignored, and has no effect on dialing (the same as if you entered an extra digit today).
- Note: The 7-digit default would probably not be enabled in cases where 8-digit dialing is implemented on top of an existing overlay, since all 7-digit systems would have already been abandoned.

A Thorough Explanation As To Whether 8-Digit Dialing Is Compatible With Local Number Portability:

Explanation:

Numbers dialed through SMART are always converted to standard NANP numbers before they enter the network, and thus will behave like any other traditionally dialed number. The 8-dialed digits are converted to standard 10-digit (or 1+10-digit) telephone numbers. The network and the local number portability database will interact with the number as if 10-digits (or 1+10-digits) had been originally dialed. Therefore this 8-digit dialing system is compatible with local number portability.

A Thorough Explanation As To Whether 8-Digit Dialing Is Compatible With Number Conservation Measures, Such As Number Pooling And Rate Center Consolidation:

Explanation:

For the same reasons that this 8-digit dialing system is compatible with local number portability, it is also compatible with all of the stated number conservation measures.

Whether 8-digit dialing can be used in conjunction with hexa-decimal dialing described earlier in this ruling:

Explanation:

For the same reasons that this 8-digit dialing system is compatible with local number portability, it is also compatible with Bill Neill's hexa-decimal dialing proposal. If

Mr. Neill's system can be implemented, the 8-digit overlay will not affect it, nor will his proposal affect the 8-digit overlay.

A Description Of The Two Telecommunications Industry Reviews Of 8-Digit Dialing. Yablon Shall Append To His Comments A Copy Of Any Formal Reports And / Or Findings That Resulted From These Reviews. Yablon May Also Provide Information That Demonstrates Why The Concerns Raised In The Industry Reviews Are Unwarranted:

The California Telecommunications Industry's Review:

In May of 1997, I presented The Unified Dialing Plan for Overlays at the Camarillo public hearing for the 805 area code. Ms. Eleanor Szeto presided over the meeting for the CPUC, and Mr. Doug Hescox was the representative from the California-Nevada Code Administration. In response to my presentation, the California Telecommunications Industry met a few months later to evaluate the proposal. The review and its conclusions were disappointing. The industry's comments demonstrated that they had many misunderstandings about the plan, but the review was conducted as if they understood it fully. I was not invited to participate in the review, nor was I contacted to answer any questions or to provide any clarifications. The findings of the review were sent to me and to the CPUC. I later spoke with Ms. Szeto and Mr. Hescox at a hearing for the 310 area code in November of 1997, and relayed to them my concerns about the misunderstandings in the review. I asked how I could respond to the review and, Ms. Szeto indicated that I could send my comments to Mr. Hescox and to herself. ATTACHMENT 4 is a copy of the industry's review and my response to each of the industry's comments.[14] I sent the response document to Ms. Szeto and Mr. Hescox on December 3, 1997.

[14] Attachment 4 is a word-for-word reproduction of the industry's review, combined with my responses. I have also attached the cover letters that I sent with the document to Ms. Szeto and Mr. Hescox. A copy of the industry's original document is also available.

The comments and responses in ATTACHMENT 4 establish that the industry's concerns in this review are largely based on misunderstandings, and should not be taken as gospel.

The Industry Numbering Committee's Review:

In July of 1998 I presented The Unified Dialing Plan for Overlays to the Industry Numbering Committee (INC), with the expectation that "numbering experts" would be able to fully understand the plan, and how it would minimize the disruptive effects of area code relief. The INC accepted my proposal as an official issue (INC Issue#141), and worked it during three consecutive conferences in San Diego California, Edmonton Canada, and San Antonio Texas. I traveled extensively to participate in these conferences, to ensure that there would be no misunderstandings. The INC did take the time to fully understand the proposal, but as a united political unit, the INC made it clear that they were not interested in supporting it. In matters of area code relief, the industry supports the credo that "the customer will adapt". Minimizing hardship for the customer is not a priority for the Telcos, especially these days when the disruption is being fueled by fierce competition in the telecommunications industry.

It's no secret that the telecommunications industry is in love with the idea of "uniform 10-digit dialing" for everybody, regardless of customer resistance to the idea.[15] Overlays are being used by the industry to help move the country into uniform 10-digit dialing, and a consumer friendly plan that would create an 8-digit overlay for customers interferes with the industry's vision. Uniform 10-digit dialing would certainly be simpler for the telephone companies, but what about the needs and wishes of the customer?

ATTACHMENT 5 is the full text of INC Issue 141. I have duplicated the findings below, and I will address each of the INC's concerns in the paragraphs that follow.

5. RESOLUTION

The INC identified and discussed the following technical and public policy concerns about Non-Disruptive Alternatives for Area Code Relief Using Overlays:

- Competitive Dialing Issues

[15] The INC has written a document entitled the "Uniform Dialing Plan", which outlines the industry's plan to institute mandatory 10-digit dialing for all calls - everywhere in the NANP.

- Different Network and Operations Support Systems vs. Current 10 Digit Overlay Implementation Requirements
- Network Timing Issues (i.e., Post Dialing Delay and Announcement Duration)
- Telephone Directories and Listing Services
- End User Concerns
- CPE Impacts
- Concerns About Implementation Costs
- Ubiquitous Deployment Issues (e.g., National Carriers)

Consequently, the INC decided against further work on this issue as it currently exists.

Competitive Dialing Issues

The 8-digit overlay does not present any competitive dialing issues that are not already generated by standard 10-digit overlays. The CLECs are mainly concerned that an 8-digit option will make overlays more appealing to the public. If overlays become popular, the CLECs are concerned that they will get stuck with number inventories from the new area code, and that they will have a hard time selling them.

It's the same argument that has been going on between ILECs and CLECs since overlays were first considered as a relief option. Meanwhile, customers continue to be the casualties in this war.

Different Network and Operations Support Systems vs. Current 10 Digit Overlay Implementation Requirements

Naturally the 8-digit overlay will require some new systems and possibly some new hardware that is not part of the current 10-digit overlay requirement. However, using this as a reason to reject 8-digit dialing is like a landlord saying "to give tenants enough hot water would require installing a different water heater, so you will just have to take cold showers instead". Not many landlords could get away with that, especially if they were the ones responsible for using up all the hot water in the first place.

New systems will have to be implemented to translate the 8-dialed digits into 10-digit numbers, however the task is not monumental, and the costs could be justified. The INC did nothing to investigate the scope of the changes that would actually be required, and that was the disappointing part of their evaluation.

Network Timing Issues (i.e., Post Dialing Delay and Announcement Duration)

Again, the INC did not conduct a study of what the actual impact of these two factors would be. With current methods of area code relief there are also delays and wasted network time. With both area code splits and standard overlays there are numerous misdials while people are learning the new dialing pattern, and with a 10-digit overlay every call will always take 42% to 57% longer to dial because of the extra digits that are required.

It is clear that this item requires further study to determine whether or not these delays are actually significant. Analysis should also consider that the permissive dialing period would require minimal delays and no announcement. And, as people get familiar with the plan there will be fewer and fewer instances where timing or the announcement actually get invoked.

Telephone Directories and Listing Services

The INC had a concern about how telephone numbers would be listed in directories and how 411 would verbalize telephone numbers. No one made any suggestions about what the format might potentially be, or what problems might occur due to these listings, however it was stated as a concern, so I will address it.

One solution for directories might be to put a legend at the top of every page. The legend would be something like this:

legend: 7-digits + "0" = 310 area code 7-digits + "1" = 424 area code

	999-1234-0
	956-5555-1
	347-9426-1
	883-5342-0
213	594-8882
818	962-5321
	654-8920-1
	678-9572-0

Is it clear what area code each of these numbers is in?

The 411 operator could verbalize the following:

The number is 310-942-5333, overlay 0.

or The number is 424-583-1234, overlay 1.

Focus groups could determine if other language might be better, however it doesn't really seem that complicated.

End User Concerns

Earlier in this document there is a discussion about Customer Confusion and Customer Education. That discussion could be repeated here, but basically, it is very likely that customer confusion in an 8-digit overlay might actually be less of a problem than it is with area code splits and standard overlays.

CPE Impacts

This was also discussed earlier. Most CPE would not be affected at all, and might not even need reprogramming. However some PBX software may need to be updated.

Concerns About Implementation Costs

The response to this concern has also been covered earlier. The industry will have to do a detailed cost analysis that compares all area code relief options in order to determine whether or not costs are a significant issue for the 8-digit overlay.

Ubiquitous Deployment Issues (e.g., National Carriers)

One of the major advantages of this plan is that implementation costs are confined to the local area where the plan is actually implemented. Usually the reason the telecommunications industry gives for not implementing requested changes is that the change would impact all switching equipment in the NANP, which would be too costly. With the 8-digit overlay, the industry is complaining that the modifications would be localized, and would not pertain to all of their equipment. This cannot be ethically argued both ways. The fact that the Telcos are buying up the competition nation wide and are becoming de-facto monopolies once again should not be used to persuade regulators why customers in a local region should not be given better service.

Conclusion:

The INC's review, though technically more astute than the California Telecommunications Industry Review, is clearly a political statement. None of the Telcos want to implement this plan because it doesn't serve the Telcos. How many customers will they gain if they implement this plan? The answer is none, we are already a captive audience. How many customers will they loose if they don't implement this plan? Again the answer is none, we will always be a captive audience.

On July 8th, a town hall meeting was held in Santa Monica -- the center of the 310 area code overlay. The meeting was attended by two CPUC Commissioners, several of the Commission's staff, State Assembly member Sheila Kuehl, and about 400 consumers who are very unhappy about 11-digit dialing. An astute statement was made by one of the panel members, and it went something like this "it is interesting that all of the companies are competing with each other to get the chance to offer customers every kind of new service imaginable - except the one they want!"

The 8-digit overlay can help give customers what they want - area code relief with minimal disruption and hardship. And the 8-digit overlay can help give the telecommunications industry what they want - area code relief without resistance from the public. If the industry will look for things that are "right" about this proposal, and work together to modify what "might be wrong", everyone will benefit.

Respectfully submitted,

By _____
Gilbert J. Yablon

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July 23, 1999

ATTACHMENTS

ATTACHMENT 1

TECHNICAL FEASIBILITY STATEMENT REGARDING THE 8-DIGIT OVERLAY PROPOSAL

The following page makes up ATTACHMENT 1

July 11, 1999

Re: Technical feasibility of the 8-Digit Dialing Plan proposed by Gilbert J. Yablon

To Whom It May Concern:

In July of 1997 I retired as the Executive Director - Operations and Engineering for the United States Telephone Association (USTA) after 36 plus years of experience encompassing diverse disciplines in the telecommunications industry.

As the Executive Director of the Technical Disciplines Department, I managed a large portion of the technical committee activities at USTA associated with numbering issues. As part of my responsibilities, I was required to regularly attend and participate in most of the industry meetings concerning numbering matters. I served as Chair or Co-Chair on a number of these various committees and working groups including the Industry Numbering Committee (INC).

I have thoroughly reviewed Gilbert J. Yablon's 8-Digit Dialing Plan and have found it to be a technically feasible plan that should be considered when addressing area code relief. The plan does conform to the NANP in that each customer retains a seven digit address (ten digit including area code) and the eighth digit is used for dialing purposes only to identify the specific NPA.

As with any plan to provide relief, there will be costs associated with the plan. The cost and the extent of equipment modifications that will incurred by the industry for each of the alternatives considered can only be addressed by the industry. The same is true for the cost to be incurred by the consumer. A cross-section of consumer groups needs to compile this data. And no matter what plan is implemented there will be customer confusion and education.

Providing area code relief is expensive and disruptive to both the industry and the consumer, therefore, all methods available that would ease this burden should be considered in enough detail to minimize the impacts.

Sincerely,

Dennis J. Byrne

Dennis J. Byrne
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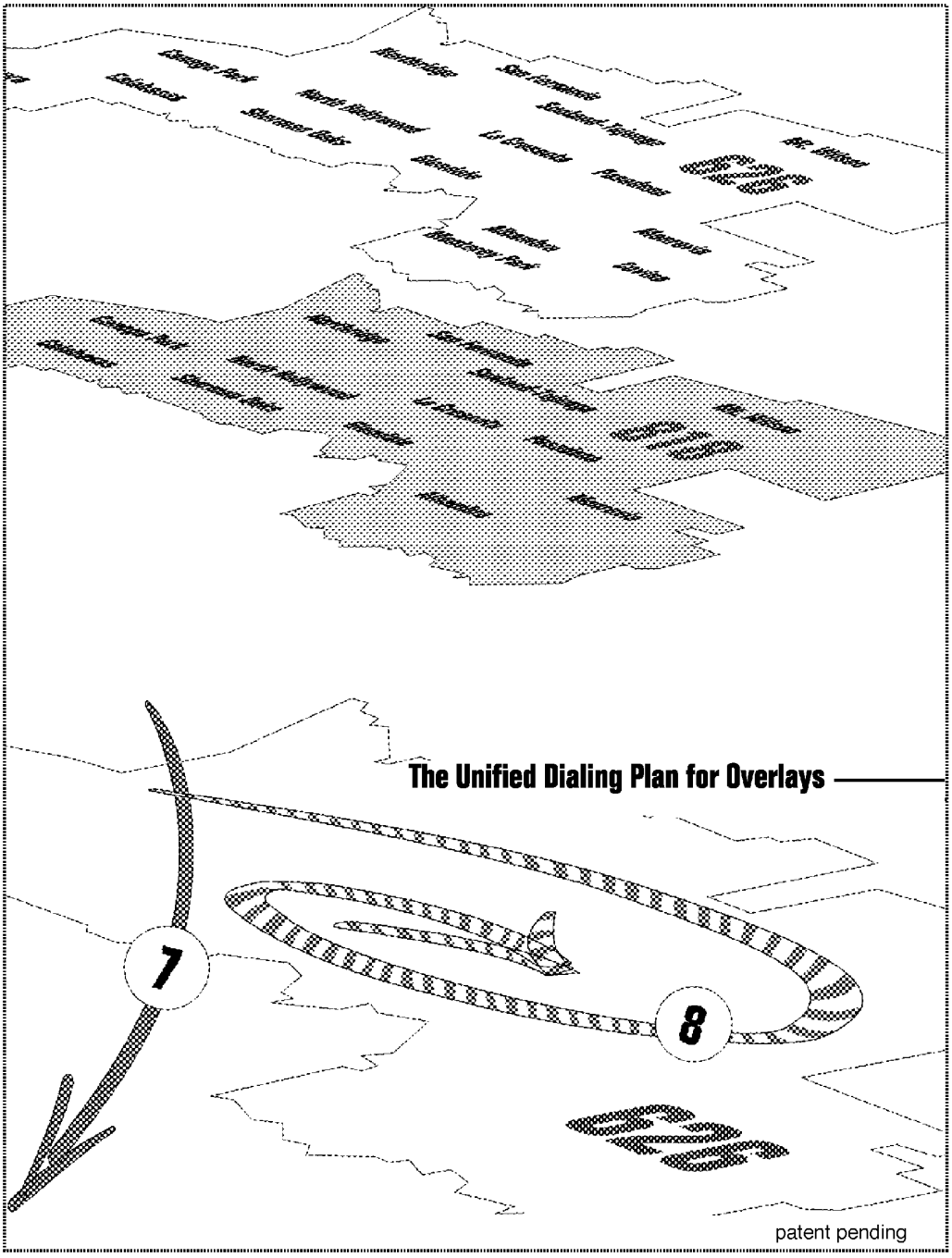
707-435-8285

ATTACHMENT 2A

UNIFIED DIALING PLAN FOR OVERLAYS DESCRIPTION

The following pages makes up ATTACHMENT 2A

Note: This document was originally created in 1997, and therefore some of its reference may be some what dated. In particular, it describes 818 and 626 as area codes that might be used to implement this 8-digit overlay system. These references are only to be used as hypothetical examples, and no argument is being made to implement the overlay with those two area codes.



Revised 11/15/98

Proposal

Contact:

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"The Unified Dialing Plan for Overlays"

A Simplified 8 Digit Dialing System For Use With Overlaid Area Codes
proposed by Gilbert Yablon
revised 11/15/98

Introduction:

The Unified Dialing Plan for Overlays (UDPFO) offers a set of enhancements for standard overlay implementations. These enhancements simplify the public's transition to overlays by preserving the look and feel of non-overlay dialing within the affected area.

The main features of the UDPFO are:

1) An 8 digit dialing method can be used for all phone calls within the overlay region, allowing customers to dial just 7 digits + "1 additional digit" for indicating the intended area code.

2) A "safety net" is provided to catch any calls that might continue to be dialed with the old 7 digit method. This backward compatible feature facilitates transition to the new 8 digit plan. In emergencies this feature may also help avoid disasters since it could continue to allow unattended auto dialing systems - including fire and burglar alarms - to complete calls even if they have not been reprogrammed.

3) 10 digit and 1+10 digit dialing is available for all calls, but with the UDPFO it is not mandatory to dial this way.

4) The special 8 digit dialing method and the 7 digit safety net are optional features. They are available for those customers who wish to take advantage of these consumer friendly dialing alternatives. If customers prefer to dial 10 digits or 1+10 digits for every call (as is required in standard overlays), they can easily bypass the enhanced features of the UDPFO.

How it works:

The UDPFO can be thought of as an intelligent system that sits on top of (or is part of) a standard telephone company switch. It does not in any manner alter the way in which phone numbers are handled by the telephone network. It merely provides an alternate method of accessing the industry standard 3 digit area code + 7 digit phone number system. Within traditional Numbering Plan Areas (NPAs), the area code is implied, and calls can be completed by dialing just 7 digits. In overlay regions, where multiple area codes exist within a single geographic area, the UDPFO allows the intended area code to be indicated with a single digit - instead of 3 digits. By dialing 7 digits in the traditional manner and then dialing only one additional digit (the new "8th" digit), the user can indicate which of the area codes in the region that the call is intended for. The 8 digit number is then translated into an industry standard 10 digit number before any switching occurs. The network and all switches will process this number as if it had been originally dialed as 10 digits or 1+10 digits.

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This simple plan for overlays could also be called the "SMART" Dialing System.

"Smart" is an acronym for:

S implified
M ulti
A rea Code
R egion
T elephone Dialing System

The "SMART" system offers the following advantages over standard overlays:

- It greatly reduces the confusion and inconvenience that is associated with having multiple area codes within individual neighborhoods and households.
- It provides a simplified dialing system which allows customers throughout the overlay region to dial just 8 digits instead of 10 digits or 1+10 digits for all calls within the region.
- It minimizes the hardship normally associated with an area code change, especially for children, handicapped persons and the elderly.
- It ensures that unattended auto dialers (like fire alarms and burglar alarms) will be able to complete calls even without reprogramming.
- It reduces the likelihood that the new overlay area code will be a stigma for new businesses.
- It reduces the public's resistance to accepting overlays for area code relief.

Defining these terms will be helpful for the discussions that follow:

original area code	The area code that existed in the region before any other area codes were overlaid on top of it. In these examples the 818 area code is the *original area code* or *level* of the overlay.
new area code	A new overlaid area code. In these examples the 626 area code is the first *new area code* or *level* of the overlay.
home overlay region	A single geographic region which contains the original area code and all of the new overlaid area codes.
home overlay region calls	Refers to calls where the originating and the destination area codes both reside within the same geographic region.
abbreviated dialing	Dialing which requires fewer than 10 digits to complete. Today, abbreviated dialing within a single area code typically requires dialing just 7 digits. In a Unified Dialing Plan for Overlays scenario, where multiple area codes occupy the same geographic region, abbreviated dialing is accomplished by dialing just 7 digits + "1 additional digit" for indicating the area code.

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In Brief:

This plan proposes a system in which dialing within a "home overlay region" is facilitated by:

- An *"8 digit"* dialing method which can be used for all "home overlay region calls." Customers will dial 7 digits + "1 additional digit." The "1 additional digit" indicates the intended area code.
- A permissive *"7 digit + timing"* default mechanism which facilitates the changeover from 7 digit dialing to the new 8 digit dialing system. After the transition period is complete, this feature can continue to provide an emergency "safety net" which will ensure that unattended auto dialers (like fire alarms and burglar alarms) will be able to complete calls without reprogramming. And...
- *"10 digit" (or "1+10 digit")* dialing which is always available for all calls. Industry standard 10 digit phone numbers are the backbone of this dialing plan, and 10 digit dialing should be made available for customers who prefer to dial this way. The "8 digit" dialing option is merely an alternative (or short cut) method for accessing these same industry standard 10 digit numbers.

Refer to Fig. 4A at the end of this report for an illustration of how these three dialing methods are integrated in the Unified Dialing Plan for Overlays.

This plan is applicable to any area where an overlay might need to be implemented. The following hypothetical illustrations describe 818 as the original area code, and 626 as the first new "overlaid" level.

How the plan would be implemented:

Each area code within a "home overlay region" will be assigned a one digit identifier which can then be used as the 8th digit (or suffix) when dialing.

In our hypothetical 818/626 home overlay region, the suffixes would be assigned as follows:

- All 818 numbers would receive a suffix of "0" (representing the original level).
- All 626 numbers would receive a suffix of "1" (representing the first new level).
- Any future overlay levels would receive a suffix of "2" - "9" in that order. This framework will allow for easy future expansion when more numbers are needed.

For example:

123-4567-0 = 1-818-123-4567	Within the 818/626 overlay region, either style is valid.
123-4567-1 = 1-626-123-4567	Within the 818/626 overlay region, either style is valid.
123-4567-2 = 1-???-123-4567	Within the 818/626/??? overlay region, either style will be valid (for a third overlaid area code).

Further:

- A "safety net" is provided which facilitates transition to this new 8 digit plan. After 7 digits are dialed a timing interval begins. If an 8th digit is not entered before the interval elapses the call will default to the "original" area code of the overlay grouping. This feature provides backward compatibility with existing dialing patterns during transition, and ensures that old style 7 digit calls will complete in emergency situations.

For example:

123-4567+timing delay = 1-818-123-4567	Defaults to 818 + 7 digit number to accommodate existing dialing patterns. The industry would determine the appropriate length for this timing delay.

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From anywhere within the overlay area, the dialing plan would operate as follows:

- Once 7 digits are received, the phone system will wait an additional timing period (to be determined by the industry) for a possible 8th digit which technically is the "overlay area code selector."
- ..... If 8 digits are received, phone system equipment will run an analysis on the number, examining the 8th digit to determine the intended area code.
- ..... If the 8th digit is a "0", the call will be directed to the 818 level of the overlay.
- ..... If the 8th digit is a "1", the call will be directed to the 626 level of the overlay.
- ..... If the industry determined "timing delay" elapses before the 8th digit is received, a suffix of "0" is assumed, and the 7 digit call will automatically be directed to the 818 level of the overlay. This "default" mechanism will facilitate a smooth transition from 7 digit dialing to the new 8 digit plan.
- If an industry determined "timing delay" elapses and less than 7 digits have been received, the call is considered abandoned, and the standard "try again" message is given.
- Once the proper overlay level is determined and the call is routed to the proper area code within the overlay region, the suffix is discarded, leaving a standard 7 digit number to be routed by traditional 7 digit switching systems.
- To summarize, all "7 digit + suffix" or "7 digit + timing" calls are converted to 10 digit or 1+10 digit numbers by the phone system, and are then transparently routed to the proper overlay level.

Note: 10 digit or 1 + 10 digit dialing for home overlay region calls would also be supported, if that were how people preferred to dial, but it would not be mandatory.

Handling local or toll calls going outside the 818/626 overlay region:

Mandatory 10 digit dialing or 1 + 10 digit dialing would be used for dialing to any number outside of the 818/626 overlay region. If someone in the overlay region were to accidentally use the "10 + x" or "1 + 10 + x" format (because they had become accustomed to dialing 8 digit phone numbers) it wouldn't matter because in 10 digit and 1 + 10 digit dialing the network ignores all extra digits beyond 10 or 1+10.

Handling local or toll calls coming into the 818/626 overlay region:

When calling from outside of the 818/626 region, standard 10 digit or 1 + 10 digit dialing would be used to dial to any number inside of the 818/626 region. If someone from outside the 818/626 region were to accidentally use the "10 + x" or "1 + 10 + x" format (because they were unclear as to the correct dialing rules) it wouldn't matter because the network will ignore any extra digits beyond 10 or 1+10.

Directory listings:

In the 818/626 telephone directories the numbers will be listed as follows:

legend:	7 digits + "0" = 818 area code	7 digits + "1" = 626 area code
818 number	999-3360-0	
626 number	956-2200-1	
213 number	213-462-2110	*out of "overlay area" number*
626 number	347-9426-1	
818 number	883-6234-0	
818 number	830-9339-0	
818 number	982-7417-0	
626 number	889-4509-1	
310 number	310-244-0177	*out of "overlay area" number*

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Because no area codes would need to be listed for "home overlay region" phone numbers, the "new" 626 numbers (which a new business might have) will not stand out as red flags to customers looking for experienced services. Naturally, phone numbers with area codes outside of the "home overlay region" would stand out, as is already the case in current directories.

To further remind people how the system works, a sticker could be supplied to customers in the 818/626 region. For example:

8 digit dialing supported:
7 digit phone number + 0 = 818 area code
7 digit phone number + 1 = 626 area code

How to inform the public on how to use the new plan:

On and after the date that this plan is to take effect:

Calls made from any telephone within the 818/626 overlay region can be dialed as follows:

- **For calls to 818 numbers:**
  Dial the 7 digit number like you always have, and then enter a "0."
- **For calls to 626 numbers:**
  Dial 7 digits, and then enter a "1."
- **For calls to phone numbers in area codes outside of the 818/626 overlay region:**
  Dial 1 + area code + 7 digits -- the same as you would before the overlay went into effect.
- **Note, if only 7 digits are dialed:**
  If you do not enter an 8th digit, after a significant delay your call will default to the dialed 7 digit number in the **818** area code.
  You should always dial the appropriate 8th digit in order to avoid this delay.

For calls made from area codes outside of the 818/626 overlay region:

- **to any area code within the 818/626 overlay region:**
  Dial 1 + area code + 7 digits -- the same as you would before the overlay went into effect.

Conclusion:

This plan addresses customers' objections to using overlays which they fear would result in confusion and/or the inconvenience of having to dial 10 digits or 1+11 digits just to call across the street.

The plan allows for abbreviated "7 digit + suffix" dialing from and to any phone within the entire overlay region, without affecting how 10 digit or 1 + 10 digit calls "out-of", "into", or within the overlay region are handled. It is expandable to 10 levels (0-9) of overlay within a single geographic dialing region, allowing for painless addition of many new numbers in the future.

A "safety net" is provided to facilitate transition from 7 digit dialing to the new 8 digit dialing method, which will also minimize the need to reprogram unattended automatic dialing devices (like burglar alarms and fire alarms), and will minimize lost calls in emergency situations.

Additionally, the new style of directory listings won't be a disadvantage for new businesses.

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For the public, this plan will have the psychological appeal of being a new "high tech" solution to the challenges presented by splits and standard overlays. It addresses all of the public's concerns about overlays, and will leave citizens and businesses with a feeling that something is finally being done to protect them from the hardship and inconvenience that traditionally comes with area code exhaust and relief.

When the advantages of this plan are weighed against the disadvantages of area code splits and standard implementations of overlays (expense, disruption, confusion, inconvenience, permanent impact on the size of geographic dialing areas, etc.), this unified dialing plan for overlays clearly makes sense as a solution for both the short and the long term.

This system can be applied to any area that is faced with the need to introduce an overlay. If this system becomes a standard, over time large areas of North America would be able to locally take advantage of this plan without affecting how any "out of region" or "into region" dialing and switching is handled.

Illustrations:

Using the 818/626 area codes as an example, the attached diagrams illustrate how dialing patterns are impacted by various forms of area code relief.

- *Figure 1A* shows the established dialing patterns in an area code prior to implementing relief.
- *Figure 2A* shows how an area code split disrupts established dialing patterns.
- *Figure 3A* shows how a standard overlay impacts established dialing patterns and how its overlay levels are not united by a distinctive dialing plan.
- *Figure 4A* shows how *The Unified Dialing Plan for Overlays* unifies all levels of the overlay region with a simple 8 digit dialing system, and how it provides a "safety net" which facilitates transition from 7 digit dialing to the new 8 digit dialing method and minimizes lost calls in emergency situations.

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Currently Existing Area Code

Fig.1: Communities Involved

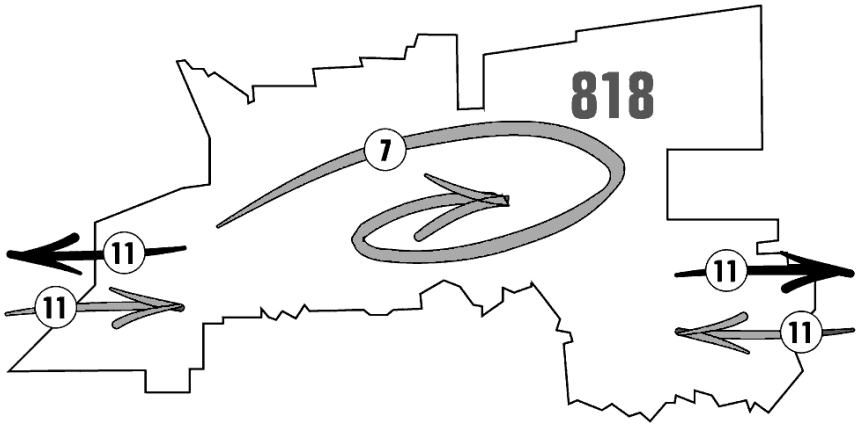

Fig.1A: Dialing Patterns

Dialing Options

7 Digit Dialing
Within 818
123-4567

11 Digit Dialing
Into Area
1+818+123-4567

Out of Area
1+NXX+123-4567

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This map shows the established dialing patterns of an area code before being impacted by area code relief. These dialing patterns will be disrupted by either a split or a standard overlay.

Approved Area Code Split [effective June 1997]

Fig.2: Communities Involved

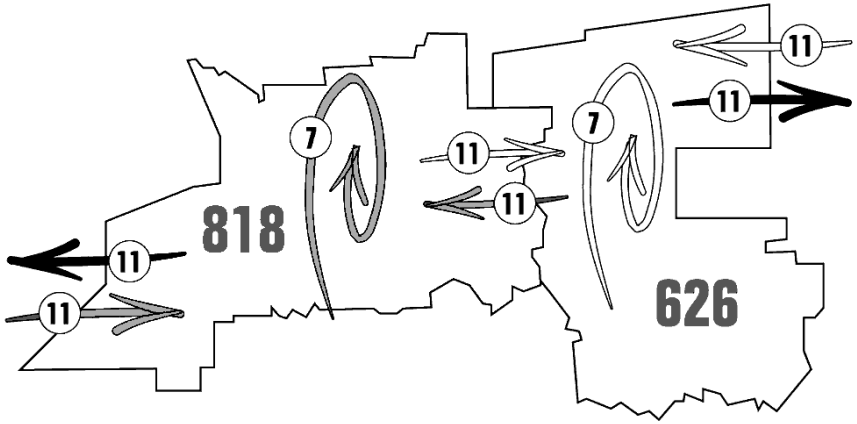


Fig.2A: Dialing Patterns

Dialing Options

7 Digit Dialing

Within 818
123-4567

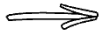
or

Within 626
123-4567

11 Digit Dialing

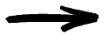
Into Area

1+818+123-4567



1+626+123-4567

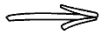
Out of Area



1+NXX+123-4567

Between 818/626

1+818+123-4567



1+626+123-4567

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Implementing a split greatly impacts dialing for calls both within and into the original NPA. This method of relief is expensive for business and disruptive to all customers, both within and outside of the affected area.

The Standard Overlay Method

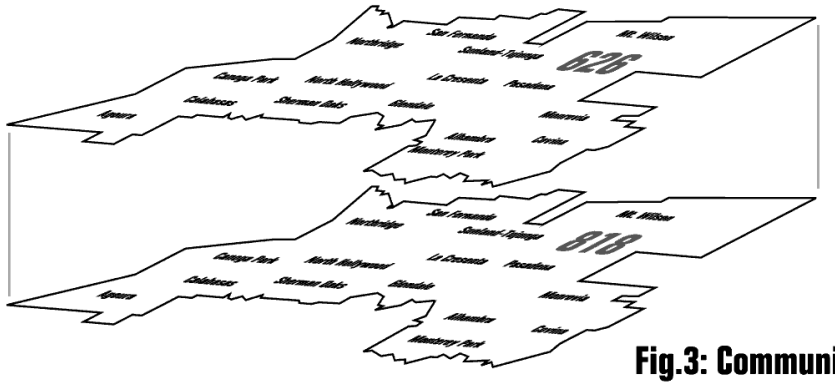

Fig.3: Communities Involved

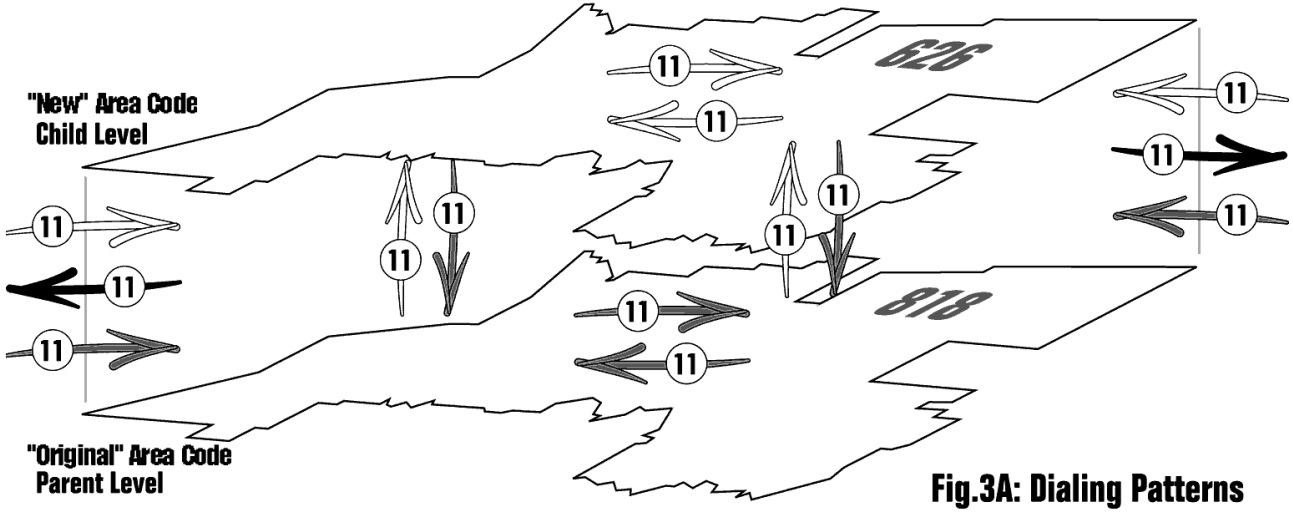

Fig.3A: Dialing Patterns

Dialing Options

7 Digit Dialing

Thought to be impractical for this Overlay Method

Mandatory 11 Digit Dialing

Into Area

1+818+123-4567

or 1+626+123-4567

Out of Area

1+NXX+123-4567

Within 818/626 Area

1+818+123-4567

or 1+626+123-4567

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With abbreviated dialing abandoned, the overlay levels are not unified by a distinctive dialing plan. The concern that this mix of area codes will cause hardship and confusion for citizens has prevented overlays from becoming widely accepted.

The Unified Dialing Plan for Overlays

Fig.4: Communities Involved

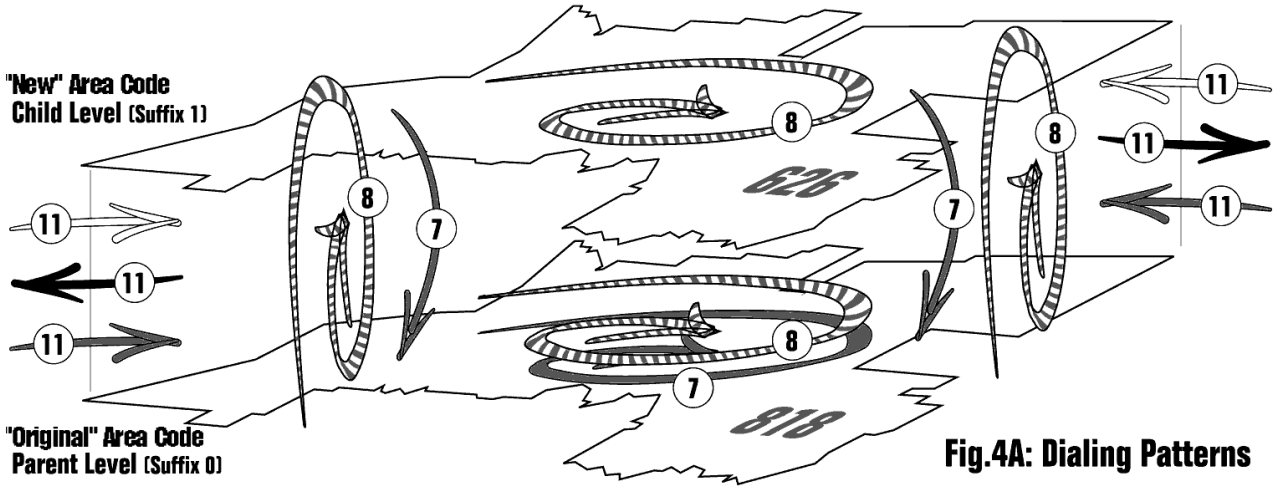
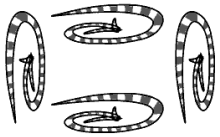


Fig.4A: Dialing Patterns

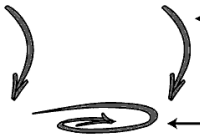
Dialing Options

Unified - 8 Digit Dialing (7+X)



Within 818/626 Area
123-4567+0 (for 818)
123-4567+1 (for 626)

Transitional 7 Digit + Timing - Safety Net



From 626 to 818
or
Within 818
123-4567

1 +10 = 11 Digit Dialing

Into Area
1+818+123-4567
or 1+626+123-4567

Out of Area
1+NXX+123-4567

Note: For Optional 11 Digit Dialing
Within 818/626 Area
Refer to Fig. 3A

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This overlay method provides for long term relief AND maintains the intregity of the original dialing area by:

1) Unifying all levels of the overlay with a simple 8 digit (7+suffix) dialing system.
2) Creating a backwkard compatible 'Safety Net' which facilitates transition and prevents old style 7 digit calls fr om being lost.
3) Allowing for optional (not mandatory) **1 +10** digit dialing between levels of the overlay.

ATTACHMENT 2B

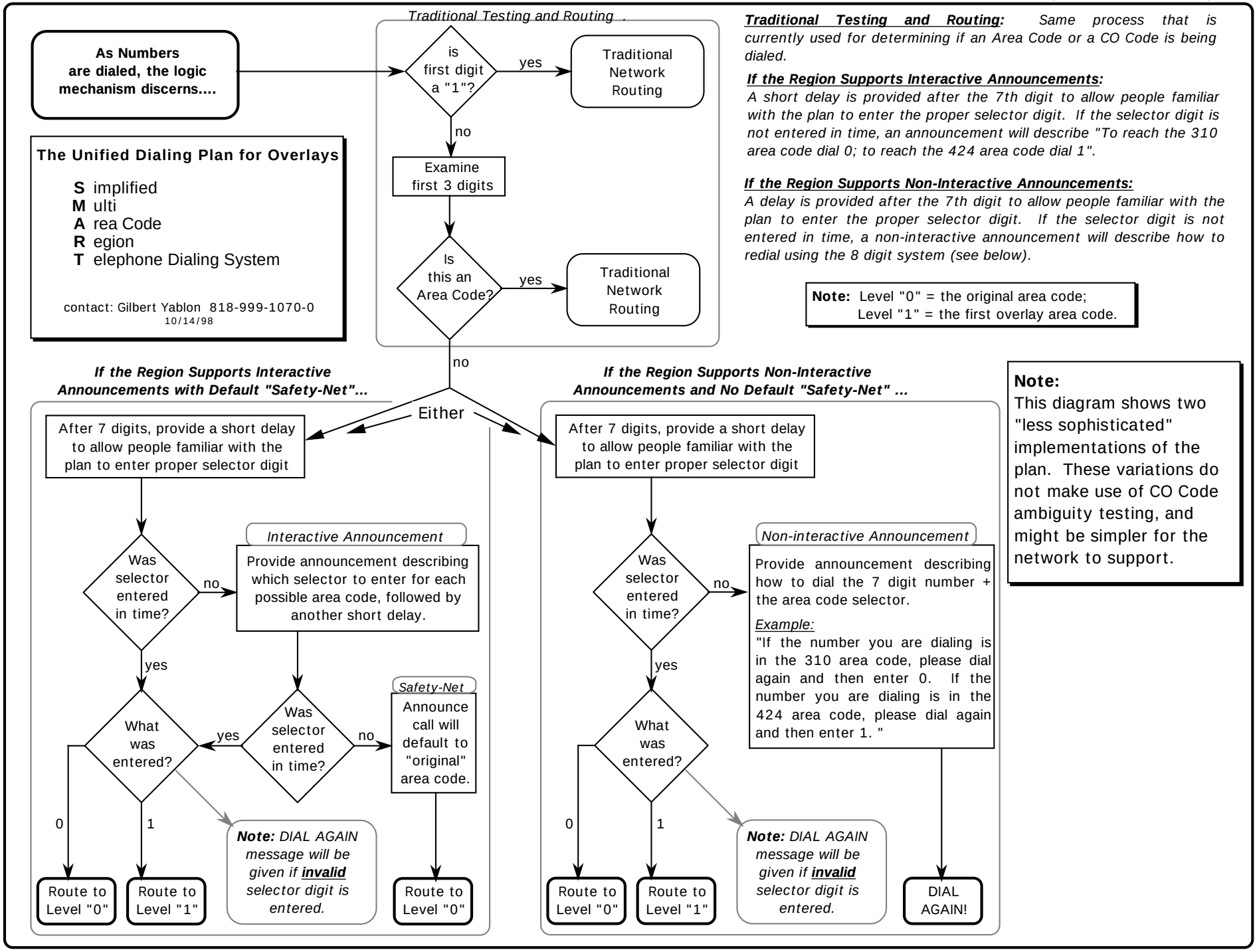
LOGIC FLOW DIAGRAM FOR TWO VARIATIONS OF THE PROPOSAL

The following page makes up ATTACHMENT 2B

Note: This diagram is only provided as a general guide to visually demonstrate how the system determines what is being dialed and how the dialed numbers are translated and routed. It is not a definitive description of the plan.

Two possible variations are shown as examples only.

UDPFO LOGIC FLOW DIAGRAM with INTERACTIVE or NON-INTERACTIVE ANNOUNCEMENT (versions C&D)



Traditional Testing and Routing: *Same process that is currently used for determining if an Area Code or a CO Code is being dialed.*

If the Region Supports Interactive Announcements:
A short delay is provided after the 7th digit to allow people familiar with the plan to enter the proper selector digit. If the selector digit is not entered in time, an announcement will describe "To reach the 310 area code dial 0; to reach the 424 area code dial 1".

If the Region Supports Non-Interactive Announcements:
A delay is provided after the 7th digit to allow people familiar with the plan to enter the proper selector digit. If the selector digit is not entered in time, a non-interactive announcement will describe how to redial using the 8 digit system (see below).

Note: Level "0" = the original area code;
Level "1" = the first overlay area code.

Note:
This diagram shows two "less sophisticated" implementations of the plan. These variations do not make use of CO Code ambiguity testing, and might be simpler for the network to support.

ATTACHMENT 3

THE TELECOMMUNICATIONS ACT OF 1996
SECTION 251

The following pages make up ATTACHMENT 3

paragraph defines more than one term; and

(B) the words `The term';

(7) by changing the first letter of each defined term in such paragraphs from a capital to a lower case letter (except for `United States', `State', `State commission', and `Great Lakes Agreement'); and

(8) by reordering such paragraphs and the additional paragraphs added by subsection (a) in alphabetical order based on the headings of such paragraphs and renumbering such paragraphs as so reordered.

(d) CONFORMING AMENDMENTS- The Act is amended--

(1) in section 225(a)(1), by striking `section 3(h)' and inserting `section 3';

(2) in section 332(d), by striking `section 3(n)' each place it appears and inserting `section 3'; and

(3) in sections 621(d)(3), 636(d), and 637(a)(2), by striking `section 3(v)' and inserting `section 3'.

TITLE I--TELECOMMUNICATION SERVICES

SUBTITLE A--TELECOMMUNICATIONS SERVICES

SEC. 101. ESTABLISHMENT OF PART II OF TITLE II.

(a) AMENDMENT- Title II is amended by inserting after section 229 (47 U.S.C. 229) the following new part:

`PART II--DEVELOPMENT OF COMPETITIVE MARKETS

`SEC. 251. INTERCONNECTION.

`(a) GENERAL DUTY OF TELECOMMUNICATIONS CARRIERS- Each telecommunications carrier has the duty--

`(1) to interconnect directly or indirectly with the facilities and equipment of other telecommunications carriers; and

`(2) not to install network features, functions, or capabilities that do not comply with the guidelines and standards established pursuant to section 255 or 256.

`(b) OBLIGATIONS OF ALL LOCAL EXCHANGE CARRIERS- Each local exchange carrier has the following duties:

`(1) RESALE- The duty not to prohibit, and not to impose unreasonable or discriminatory conditions or limitations on, the resale of its telecommunications services.

`(2) NUMBER PORTABILITY- The duty to provide, to the extent technically feasible, number portability in accordance with requirements prescribed by the Commission.

`(3) DIALING PARITY- The duty to provide dialing parity to competing providers of telephone exchange service and telephone toll service, and the duty to permit all such providers to have nondiscriminatory access to telephone numbers, operator services, directory assistance, and directory listing, with no

unreasonable dialing delays.

`(4) ACCESS TO RIGHTS-OF-WAY- The duty to afford access to the poles, ducts, conduits, and rights-of-way of such carrier to competing providers of telecommunications services on rates, terms, and conditions that are consistent with section 224.

`(5) RECIPROCAL COMPENSATION- The duty to establish reciprocal compensation arrangements for the transport and termination of telecommunications.

`(c) ADDITIONAL OBLIGATIONS OF INCUMBENT LOCAL EXCHANGE CARRIERS-

In addition to the duties contained in subsection (b), each incumbent local exchange carrier has the following duties:

`(1) DUTY TO NEGOTIATE- The duty to negotiate in good faith in accordance with section 252 the particular terms and conditions of agreements to fulfill the duties described in paragraphs (1) through (5) of subsection (b) and this subsection. The requesting telecommunications carrier also has the duty to negotiate in good faith the terms and conditions of such agreements.

`(2) INTERCONNECTION- The duty to provide, for the facilities and equipment of any requesting telecommunications carrier, interconnection with the local exchange carrier's network--

`(A) for the transmission and routing of telephone exchange service and exchange access;

`(B) at any technically feasible point within the carrier's network;

`(C) that is at least equal in quality to that provided by the local exchange carrier to itself or to any subsidiary, affiliate, or any other party to which the carrier provides interconnection; and

`(D) on rates, terms, and conditions that are just, reasonable, and nondiscriminatory, in accordance with the terms and conditions of the agreement and the requirements of this section and section 252.

`(3) UNBUNDLED ACCESS- The duty to provide, to any requesting telecommunications carrier for the provision of a telecommunications service, nondiscriminatory access to network elements on an unbundled basis at any technically feasible point on rates, terms, and conditions that are just, reasonable, and nondiscriminatory in accordance with the terms and conditions of the agreement and the requirements of this section and section 252. An incumbent local exchange carrier shall provide such unbundled network elements in a manner that allows requesting carriers to combine such elements in order to provide such telecommunications service.

`(4) RESALE- The duty--

`(A) to offer for resale at wholesale rates any telecommunications service that the carrier provides at retail to subscribers who are not telecommunications carriers; and

`(B) not to prohibit, and not to impose unreasonable or discriminatory conditions or limitations on, the resale of such telecommunications service, except that a State commission may, consistent with regulations prescribed by the Commission under this section, prohibit a reseller that obtains at wholesale rates a telecommunications service that is available at retail only to a category of subscribers from offering such service to a different category of subscribers.

`(5) NOTICE OF CHANGES- The duty to provide reasonable public notice of changes in the information necessary for the transmission and routing of services using that local exchange carrier's facilities or networks, as well as of any other changes that would affect the interoperability of those facilities and networks.

`(6) COLLOCATION- The duty to provide, on rates, terms, and conditions that are just, reasonable, and nondiscriminatory, for physical collocation of equipment necessary for interconnection or access to unbundled network elements at the premises of the local exchange carrier, except that the carrier may provide for virtual collocation if the local exchange carrier demonstrates to the State commission that physical collocation is not practical for technical reasons or because of space limitations.

`(d) IMPLEMENTATION-

`(1) IN GENERAL- Within 6 months after the date of enactment of the Telecommunications Act of 1996, the Commission shall complete all actions necessary to establish regulations to implement the requirements of this section.

`(2) ACCESS STANDARDS- In determining what network elements should be made available for purposes of subsection (c)(3), the Commission shall consider, at a minimum, whether--

`(A) access to such network elements as are proprietary in nature is necessary; and

`(B) the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer.

`(3) PRESERVATION OF STATE ACCESS REGULATIONS- In prescribing and enforcing regulations to implement the requirements of this

section, the Commission shall not preclude the enforcement of any regulation, order, or policy of a State commission that--

`(A) establishes access and interconnection obligations of local exchange carriers;

`(B) is consistent with the requirements of this section; and

`(C) does not substantially prevent implementation of the requirements of this section and the purposes of this part.

`(e) NUMBERING ADMINISTRATION-

`(1) COMMISSION AUTHORITY AND JURISDICTION- The Commission shall create or designate one or more impartial entities to administer telecommunications numbering and to make such numbers available on an equitable basis. The Commission shall have exclusive jurisdiction over those portions of the North American Numbering Plan that pertain to the United States. Nothing in this paragraph shall preclude the Commission from delegating to State commissions or other entities all or any portion of such jurisdiction.

`(2) COSTS- The cost of establishing telecommunications numbering administration arrangements and number portability shall be borne by all telecommunications carriers on a competitively neutral basis as determined by the Commission.

`(f) EXEMPTIONS, SUSPENSIONS, AND MODIFICATIONS-

`(1) EXEMPTION FOR CERTAIN RURAL TELEPHONE COMPANIES-

`(A) EXEMPTION- Subsection (c) of this section shall not apply to a rural telephone company until (i) such company has received a bona fide request for interconnection, services, or network elements, and (ii) the State commission determines (under subparagraph (B)) that such request is not unduly economically burdensome, is technically feasible, and is consistent with section 254 (other than subsections (b)(7) and (c)(1)(D) thereof).

`(B) STATE TERMINATION OF EXEMPTION AND IMPLEMENTATION SCHEDULE- The party making a bona fide request of a rural telephone company for interconnection, services, or network elements shall submit a notice of its request to the State commission. The State commission shall conduct an inquiry for the purpose of determining whether to terminate the exemption under subparagraph (A). Within 120 days after the State commission receives notice of the request, the State commission shall terminate the exemption if the request is not unduly economically burdensome, is technically feasible, and is consistent with section 254 (other than subsections (b)(7) and (c)(1)(D) thereof). Upon termination of the exemption, a State commission shall establish an

implementation schedule for compliance with the request that is consistent in time and manner with Commission regulations.

`(C) LIMITATION ON EXEMPTION- The exemption provided by this paragraph shall not apply with respect to a request under subsection (c) from a cable operator providing video programming, and seeking to provide any telecommunications service, in the area in which the rural telephone company provides video programming. The limitation contained in this subparagraph shall not apply to a rural telephone company that is providing video programming on the date of enactment of the Telecommunications Act of 1996.

`(2) SUSPENSIONS AND MODIFICATIONS FOR RURAL CARRIERS- A local exchange carrier with fewer than 2 percent of the Nation's subscriber lines installed in the aggregate nationwide may petition a State commission for a suspension or modification of the application of a requirement or requirements of subsection (b) or (c) to telephone exchange service facilities specified in such petition. The State commission shall grant such petition to the extent that, and for such duration as, the State commission determines that such suspension or modification--

`(A) is necessary--

`(i) to avoid a significant adverse economic impact on users of telecommunications services generally;

`(ii) to avoid imposing a requirement that is unduly economically burdensome; or

`(iii) to avoid imposing a requirement that is technically infeasible; and

`(B) is consistent with the public interest, convenience, and necessity.

The State commission shall act upon any petition filed under this paragraph within 180 days after receiving such petition. Pending such action, the State commission may suspend enforcement of the requirement or requirements to which the petition applies with respect to the petitioning carrier or carriers.

`(g) CONTINUED ENFORCEMENT OF EXCHANGE ACCESS AND INTERCONNECTION REQUIREMENTS- On and after the date of enactment of the Telecommunications Act of 1996, each local exchange carrier, to the extent that it provides wireline services, shall provide exchange access, information access, and exchange services for such access to interexchange carriers and information service providers in accordance with the same equal access and nondiscriminatory

interconnection restrictions and obligations (including receipt of compensation) that apply to such carrier on the date immediately preceding the date of enactment of the Telecommunications Act of 1996 under any court order, consent decree, or regulation, order, or policy of the Commission, until such restrictions and obligations are explicitly superseded by regulations prescribed by the Commission after such date of enactment. During the period beginning on such date of enactment and until such restrictions and obligations are so superseded, such restrictions and obligations shall be enforceable in the same manner as regulations of the Commission.

`(h) DEFINITION OF INCUMBENT LOCAL EXCHANGE CARRIER-

`(1) DEFINITION- For purposes of this section, the term `incumbent local exchange carrier' means, with respect to an area, the local exchange carrier that--

`(A) on the date of enactment of the Telecommunications Act of 1996, provided telephone exchange service in such area; and

`(B)(i) on such date of enactment, was deemed to be a member of the exchange carrier association pursuant to section 69.601(b) of the Commission's regulations (47 C.F.R. 69.601(b)); or

`(ii) is a person or entity that, on or after such date of enactment, became a successor or assign of a member described in clause (i).

`(2) TREATMENT OF COMPARABLE CARRIERS AS INCUMBENTS- The Commission may, by rule, provide for the treatment of a local exchange carrier (or class or category thereof) as an incumbent local exchange carrier for purposes of this section if--

`(A) such carrier occupies a position in the market for telephone exchange service within an area that is comparable to the position occupied by a carrier described in paragraph (1);

`(B) such carrier has substantially replaced an incumbent local exchange carrier described in paragraph (1); and

`(C) such treatment is consistent with the public interest, convenience, and necessity and the purposes of this section.

`(i) SAVINGS PROVISION- Nothing in this section shall be construed to limit or otherwise affect the Commission's authority under section 201.

`SEC. 252. PROCEDURES FOR NEGOTIATION, ARBITRATION, AND APPROVAL OF AGREEMENTS.

`(a) AGREEMENTS ARRIVED AT THROUGH NEGOTIATION-

ATTACHMENT 4

CALIFORNIA TELECOMMUNICATIONS INDUSTRY REVIEW AND GILBERT YABLON'S RESPONSE

The following pages makes up ATTACHMENT 4

This attachment includes the Review / Response, and cover letters that were sent to Eleanor Szeto of the CPUC and Doug Hescox (formerly of the California / Nevada Code Administration).

12/3/97

Ms. Eleanor Yung Szeto
California Public Utilities Commission
Telecommunications Division
505 Van Ness Avenue
San Francisco, CA 94102

Dear Ms. Szeto,
Thank you for taking the time to speak with me at the Culver City (310) area code relief hearing. As you suggested, I am submitting the attached document in response to the Telecommunications Industry's review of the Unified Dialing Plan for Overlays, so that the Commission can reconsider the merits of this plan in light of my response.

The industry's review offers me a great opportunity to clarify some misunderstandings, and to answer many questions about how the Unified Dialing Plan for Overlays (UDPFO) actually works, and the benefits it offers.

The attached document contains both the industry's comments about the UDPFO and my responses to those comments. I have included extra copies of this document so that you can easily distribute it to: Commissioners Conlon, Duque, Knight, Neeper and Bilas; and to other appropriate CPUC staff -- notably: yourself, Lorann King, Risa Hernandez and Karen Jones -- for evaluation.

The UDPFO offers an elegant, technically workable solution to a difficult, persistent problem. It presents a way to add new numbers to an exhausted area without disrupting any established dialing patterns to pre-relief phone numbers. Because it is "backwardly compatible" with established dialing patterns, implementing this plan will minimize the expense and hardship that local business and the public have traditionally endured every time relief has been necessary. Examination of the attached review/response will clarify why the UDPFO should be seriously considered by the Commission as an option for area code relief.

Thank you for taking this second look.

I will be happy to supply additional copies of this document as well as copies of the original Unified Dialing Plan for Overlays proposal, and any other materials or information you may require to assist in your evaluation.

Sincerely,

Gilbert Yablon
ATTACHMENTS

12/3/97

Mr. Doug Hescox
Area Code Administrator
California - Nevada Code Administration
2600 Camino Ramon, Rm. 1S900
San Ramon, CA 94583

Dear Mr. Hescox,
Thank you for taking the time to speak with me at the Culver City (310) area code relief hearing. As was suggested by Eleanor Szeto, I am submitting the attached document in response to the Telecommunications Industry's review of the Unified Dialing Plan for Overlays, so that the Industry can reconsider the merits of this plan in light of my response.

The industry's review offers me a great opportunity to clarify some misunderstandings, and to answer many questions about how the Unified Dialing Plan for Overlays (UDPFO) actually works, and the benefits it offers.

The attached document contains both the industry's comments about the UDPFO and my responses to those comments. Please present it to appropriate industry members for re-evaluation.

The UDPFO offers an elegant, technically workable solution to a difficult, persistent problem. It presents a way to add new numbers to an exhausted area without disrupting any established dialing patterns to pre-relief phone numbers. Because it is "backwardly compatible" with established dialing patterns, implementing this plan will minimize the expense and hardship that local business and the public have traditionally endured every time relief has been necessary. Examination of the attached review/response will clarify why the UDPFO should be seriously considered by the Telecommunications Industry as an option for area code relief.

Thank you for taking this second look.

I will be happy to supply additional copies of this document as well as copies of the original Unified Dialing Plan for Overlays proposal, and any other materials or information you may require to assist in your evaluation.

Sincerely,

Gilbert Yablon
ATTACHMENT

MR. GILBERT YABLON'S RESPONSE AND CLARIFICATION TO THE REVIEW BY THE CALIFORNIA TELECOMMUNICATIONS INDUSTRY OF "THE UNIFIED DIALING PLAN FOR OVERLAYS"

In this response, each paragraph of the Telecommunications Industry Review of the Unified Dialing Plan for Overlays (from 8/12/97) is reproduced word-for-word in italics. Mr. Yablon's response (in plain type face) follows each industry statement.

What the industry said in their review:

At the Camarillo public meeting Mr. Gilbert Yablon presented his "Unified Dialing Plan for Overlays," a plan intended to resolve the dialing disparity associated with overlays. Mr. Yablon described his plan briefly and provided an extensive written description to the Telecommunication Industry.

Mr. Yablon's response:

I'd like to clarify the intent of the plan, which I believe is misstated above by the industry. The intention of the plan is to provide a technically workable alternative for area code relief which will minimize hardships to local business and the public. Hardships would be defined as expenses to the customer and disruption of established dialing patterns to any pre-relief phone numbers.

The Unified Dialing Plan For Overlays (UDPFO) offers a way to add new numbers to a geographic area without needing to change the way that existing numbers are dialed in any manner. Established 7 and 1+10 digit dialing patterns are maintained and a new 8 digit option is enabled which allows for abbreviated dialing within and between all area codes in the geographic overlay area.

Further, it demonstrates how dialing parity (mandated by the FCC) can be maintained in an overlay without requiring the full 10 digit (or actually 1 + 10 digit) phone number to be dialed.

What the industry said in their review:

A Telecommunications industry review of the eight (8) digit dialing plan as outlined by Mr. Yablon shows that the plan attempts to address a concern among members of a community who are anticipating an Area Code split.

Mr. Yablon's response:

I would clarify the above paragraph to say instead: The dialing plan as outlined by Mr. Yablon addresses the concerns among members of a community who are considering an Area Code Overlay for relief. It addresses the issues that the public described regarding overlays during the 818 area code hearings in 1995. It also addresses the issues that the CLECs put forth during those hearings. In fact, the UDPFO was specifically tailored to resolve those overlay related issues.

What the industry said in their review:

Mr. Yablon's plan consists of a dialing scheme which attempts to preserve seven digit dialing within an overlay. Mr. Yablon's plan is based on a system of number suffixes that depend upon pauses in the dialing process creating an eight (8) digit dialing plan. While Mr. Yablon's proposal appears to enable seven-digit dialing for callers in the original NPA; callers in the overlay NPA would dial eight (8) digits. Upon closer inspection the industry concluded that Mr. Yablon's plan was unworkable for many reasons that include technical, regulatory, competitive, customer provided equipment (CPE) and customer education issues. These issues and the Telecommunications Industry's concerns are listed below:

MR. GILBERT YABLON'S RESPONSE AND CLARIFICATION TO THE REVIEW BY THE CALIFORNIA TELECOMMUNICATIONS INDUSTRY OF "THE UNIFIED DIALING PLAN FOR OVERLAYS"

Mr. Yablon's response:

More accurately, the above might read: Mr. Yablon's plan consists of a dialing system which:

1) Allows for optional (not mandatory) 1+10 digit dialing between all area codes in the geographic overlay area.

2) Unifies all area codes in the geographic overlay area with a simple 8 digit (7+suffix) dialing system. The suffix represents one of ten possible overlaid area codes with '0' being the original area code, '1' being the first overlaid area code, '2' being a future second overlaid area code, etc. When the switch receives the full 8 digits, it translates the number into a traditional 10 digit number (3 digit area code + 7 digit phone number) and passes it through the network as if the number had been originally dialed as 1+10.

3) Preserves established '7 digit style' dialing (see explanation below of how this default dialing is accomplished by using a 'timing delay') to all phone numbers in the original area code from any area code within the geographic overlay area.

Functionally the network switch will be looking for either 1+10 style numbers or 7+suffix style numbers. With default dialing, if only 7 digits are dialed, after an appropriate timing delay the switch will assume that '0' is the intended 8th digit and will put the call through to the original area code of the overlay area. In this way backward compatibility is achieved for dialing to 'pre-relief phone numbers' from any area code in the geographic overlay area, and the system appears completely non-disruptive to the customer.

It should be noted that while numbers in all of the area codes within the geographic overlay area can be reached by dialing either '7+suffix' or '1+10', the '7 digit default' dialing option (which requires a timing delay) applies only to numbers in the original area code and only under default conditions. On the surface this would seem to violate dialing parity, however, on closer examination it is obvious that very few people would intentionally take advantage of this option. Because of the timing delay when only 7 digits are dialed, customers will quickly opt for dialing the 8th digit (in this case '0') in order to complete calls in the most expedient way. This 7 digit option is really only provided in order to ease the transition into an overlay scenario. It eliminates the need for a permissive dialing period, ensures that any phone number that had been dialed with 7 digits in the past could still be dialed the same way, and would eliminate the need for immediately updating auto dialers and data bases. More than likely, (a short time after implementation of the UDPFO), 7 digit calls will only be initiated by auto dialers which had been programmed pre-relief (i.e. alarm system auto dialers) which are typically difficult or costly for their owners to update.

With the above summation of the 'plan', and with the following responses to the Telecommunications Industry's concerns, I hope the regulators and the industry will find it advantageous to re-open discussions about the merits and feasibility of the UDPFO.

MR. GILBERT YABLON'S RESPONSE AND CLARIFICATION TO THE REVIEW BY THE CALIFORNIA TELECOMMUNICATIONS INDUSTRY OF "THE UNIFIED DIALING PLAN FOR OVERLAYS"

Technical Issues:

What the industry said in their review:

- *The increase in real time processor delay inherent in this plan can have severe impacts on the existing public network and may have dire impacts in the future. Any increase in call delay will stress the network and render ineffective the gains in efficiency the CCS/SS7 Network provides.*

Mr. Yablon's response:

No explanation was provided with the above comments, therefore, it is difficult to respond to the comments. However, any delays that might occur would happen prior to connection to the CCS/SS7 network and would have no impact on the efficiency of the CCS/SS7 network. The industry also needs to explain what the *'severe impacts on the existing public network'* would be and provide some examples of *'dire impacts in the future'*.

Also, as explained earlier, very few calls will actually be intentionally made using the '7 digit default' method -- which requires a delay. Most calls within the geographic overlay area will be initiated with the '7+suffix' method which avoids the delay. With traditional relief alternatives, a large number of calls that previously only required 7 digit dialing would afterwards require dialing 1+10 digits. A better question might be "how much stress is put on the network by the additional time required to dial 1+10 digits after a split or a standard overlay is implemented?" It may very well be that the 7+suffix method of the UDPFO would result in an overall network time savings compared to 1+10 digit dialing. The network would save the time it takes for dialing those 3 extra digits.

What the industry said in their review:

- *On demand features such as Auto Call Return, Busy Number Redial and other enhanced services will be severely impacted by the need for additional digits.*

Mr. Yablon's response:

In function, all numbers dialed in the Unified Dialing Plan are translated to 10 digit numbers by the network before switching begins. This is the same way that phone numbers have been know to the network since the 1940's. It seems hard to imagine that there would be any impact on services that have already been designed to use 10 digit numbers.

What the industry said in their review:

- *The complexity of software development, time required to install switch upgrades, and the impacts upon memory capacity will severely impact switching technologies such as 5ESS, lAESS, OSPS, AGCS GTD5, DMS 100, DMS1O, TOPS and Access Tandem switches.*

Mr. Yablon's response:

Exactly what are these costs? How do they compare to the overall cost of a split or an overlay in terms of cost and disruption to both the phone companies and the public? A single area code split costs local businesses between 20 and 40 million dollars, and the phone companies spend between 6 and 10 million per split. Would the cost of developing the software and installing switch upgrades be greater than the overall cost of even 1 area code split? It is very possible that

developing this technology could quickly pay off as an overall savings. While it is obvious that there is a cost associated with any change to the network, it is also obvious that it is not the only cost. Until a fair assessment is done to evaluate the total cost, comments such as those made by the industry are without merit.

What the industry said in their review:

- *The increase in complex digit analysis (non-sequential digit analysis) will place undue delays in the provisioning of the Federal Communication Commission (FCC) mandated Local Number Portability (LNP) features within the North American Numbering Plan (NANP).*

Mr. Yablon's response:

The above comment is an opinion and not based on fact. As stated earlier nothing in what I am proposing changes the 10-digit format and therefore should have no impact on Local Number Portability. As currently proposed, Local Number Portability is simply intended to allow a customer to change his/her carrier without requiring a number change.

What the industry said in their review:

- *On page 3 of the plan, the second bullet indicates that switch analysis will be run examining the eight digit first. This will require post digit analysis causing a further increase in the time required to process the call.*

Mr. Yablon's response:

This comment requires a further explanation (by the industry) which should include the timing differences between the various dialing scenarios.

Regulatory Issues:

What the industry said in their review:

- *The Federal Communication Commission and the California Public Utilities Commission require 10 digit dialing with an overlay of an area code. Further, the Industry Numbering Committee has endorsed 10 digit dialing as a standard, and the expected need to move beyond the 10 digit format arrangement in the future to possibly 12 digits renders Mr. Yablon's plan unusable and unworkable.*

Mr. Yablon's response:

This plan introduces new ideas which challenge the necessity of using 1+10 digits in order to maintain dialing parity in an overlay situation. In the Unified Dialing Plan, dialing parity is provided with only 8 digits.

The 12 digit format that is planned for the future does not necessarily render this plan unusable and unworkable. In addition, it is my understanding that Local Number Portability and other actions to conserve the existing resource should delay expansion until well into the next century. However, even with expansion, if thought is given to maintaining the same backward compatibility that the Unified Dialing Plan offers for overlays, this plan can very likely co-exist with a plan requiring any new number of digits.

MR. GILBERT YABLON'S RESPONSE AND CLARIFICATION TO THE REVIEW BY THE CALIFORNIA TELECOMMUNICATIONS INDUSTRY OF "THE UNIFIED DIALING PLAN FOR OVERLAYS"

What the industry said in their review:

- *Section 251 (b)(3) of the Telecommunications Act imposes a duty to provide dialing parity to competing providers of telephone exchange service and telephone toll service. The Unified Dialing Plan's provision that incumbent customers, retain seven digit dialing while others do not appears to violate that provision.*

Mr. Yablon's response:

This is a misunderstanding of how the plan works. The Unified Dialing Plan for Overlays does not violate dialing parity. All of the area codes in the UDPFO are able to initiate calls with any of the 3 available dialing options ('7 digit default', '7+suffix', or '1+10'). There is no dialing advantage or disadvantage associated with either the original area code or any of the overlaid area codes. Customers from any area code within the geographic overlay area can dial the original incumbent area code with '7 digit default' (which always requires a timing delay) -- but why would they want to, when they can make the call more expediently by simply dialing it as an 8 digit number (7digits+'0') and thus avoid the delay?

The '7 digit default' option is provided so that there is no penalty to people who already have phones and services in the original area code; who would otherwise be forced to immediately change dialing habits, update auto dialers and reprogram 'alarm type' systems from '7 digit' to '8 digit' or '1+10 digit' dialing.

Competitive Issues:

What the industry said in their review:

- *The Telecommunications Act imposes a duty to provide dialing parity to competing providers of telephone exchange service and telephone toll service. The Unified Dialing Plan's provision that incumbent customers retain seven digit dialing while others do not appears to violate that provision.*

Mr. Yablon's response:

Same answer as above.

What the industry said in their review:

- *Any dialing plan change would have to be agreed upon by the entire North American Telecommunications Industry.*

Mr. Yablon's response:

The beauty of this plan is that it solves local dialing issues and does not affect 'dialing to' or 'dialing from' any 'outside' area codes. It could be adopted on a situation by situation basis, and would have no impact on dialing or switching for the rest of the telephone network. Universal agreement would be great, but it is unnecessary for implementation of this local solution.

MR. GILBERT YABLON'S RESPONSE AND CLARIFICATION TO THE REVIEW BY THE CALIFORNIA TELECOMMUNICATIONS INDUSTRY OF "THE UNIFIED DIALING PLAN FOR OVERLAYS"

Customer Provided Equipment (CPE) Issues:

What the industry said in their review:

- *Customer provided equipment such as PBX's, telephone key systems, speed dialers, burglar alarms, modems, Telephone Answer Service (TAS), pay telephones and auto dialers may require adaptation by the manufacture to accommodate this change. The creation of Manufacturing system standards will require agreement to this change which will entail time and dollars. Standards must be developed within National Guidelines for the Manufacturers to meet.*

Mr. Yablon's response:

The key words in the industry comments are *"may require adaptation"*. Until the manufacturers have an opportunity to respond the remainder of the comments should not contain such statements as *"will require agreement"* and *"must be developed"*. One of the main advantages of this plan is that it minimizes the impact on devices such as speed dialers, burglar alarms, and auto dialers because it eliminates the need to reprogram them when the numbers they have been set up to dial are split off into a new area code, or when 7 digit numbers need converting to 1+10 (as would be the case if a standard overlay were implemented). In most cases, PBX's, telephone key systems and pay phones would also be unaffected since the suffix logic is handled at the network switch level. At most, a PBX software change might be necessary to allow the output of the 8th digit. This would certainly be less disruptive to a PBX than a traditional area code split. Any problems that are caused may well be less significant than those caused by recent changes that have been made to the NANP, i.e. PBX problems caused by 2-9 being used for the second digit of an area code and 0-1 being used for the second digit of a prefix.

What the industry said in their review:

- *Computer Telephony Integration (CTI) products such as computer software dialing programs, dial-in/dial-back security systems and credit card validation systems may require adaptation by the developer to accommodate this change.*

Mr. Yablon's response:

There should be no effect on CTI products since all numbers will still be known to the network as 10 digit numbers, and will be still be reported by network Caller ID type systems to telephony equipment as those same 10 digit numbers. Any device on the receiving end of a call would recognize the caller in the same way that it always has.

MR. GILBERT YABLON'S RESPONSE AND CLARIFICATION TO THE REVIEW BY THE CALIFORNIA TELECOMMUNICATIONS INDUSTRY OF "THE UNIFIED DIALING PLAN FOR OVERLAYS"

Customer Issues:

What the industry said in their review:

- *The radical changes in dialing contemplated by this plan would create a formidable public education challenge.*

Mr. Yablon's response:

The '7 digit default' dialing option allows for an easy transition into the Unified Dialing Plan for Overlays. All existing numbers can still be dialed the same way that they always have been from any area code in the overlay area. All numbers can also be dialed with '1+10 digit' dialing, which is also nothing new to learn. The only new option is the '7 digit + X' suffix option, which is different, but not difficult to understand or learn. Public education is probably less of a challenge than in an area code split (where you can no longer reach certain numbers the way you have in the past) or in a standard overlay (where every number changes to 1+10, which is also different from what customers are accustomed to).

What the industry said in their review:

- *Insertion of any delay in the completion of calls will cause customer confusion, increase trouble reports, and increase customer dissatisfaction.*

Mr. Yablon's response:

Call completion delays will be minimal. As stated before, the 8 digit option would be the preferred (or dominant) dialing method in a UDPFO scenario. The '7 digit default' dialing option (which requires the timing delay) is really only offered to facilitate transition to an overlay, and it eliminates the need to immediately reprogram auto dialers and alarm systems which can be extremely time consuming and expensive to the customer (especially businesses). In a short time customers will (on their own) start using the more expedient 8 digit option.

What the industry said in their review:

- *Added call process time plus any delays in call processing due to LNP deployment will cause a large composite time delay for call completion for customers.*

Mr. Yablon's response:

The industry should be challenged on this because they should be providing actual numbers, instead of just making statements like *"a large composite time delay"* would result.

MR. GILBERT YABLON'S RESPONSE AND CLARIFICATION TO THE REVIEW BY THE CALIFORNIA TELECOMMUNICATIONS INDUSTRY OF "THE UNIFIED DIALING PLAN FOR OVERLAYS"

What the industry said in their review:

The industry would like to thank Mr. Yablon for the presentation of his plan. Mr. Yablon's work in attempting to eliminate dialing disparity in an overlay shows a valiant effort in creativity and analysis of a complex issue. The Telecommunications Industry is always willing to accept ideas for review and consideration.

Mr. Yablon's response:

Again, the industry has misstated the purpose of the UDPFO. The true purpose of this plan is to eliminate the expenses and hardships that customers have endured whenever area code relief has been necessary. By allowing backward compatibility for existing dialing patterns to pre-relief phone numbers, the UDPFO simplifies the public's transition to overlays and eliminates direct costs, hardships and confusion for the customer. The 8 digit dialing option that is part of the plan demonstrates how dialing parity can be maintained in an overlay without requiring the full 1 + 10 digit phone number to be dialed. This is a further convenience to the customer, and it provides a sense of 'unity' (instead of the sense of disunity) in an area where multiple area codes co-exist.

What the industry said in their review:

Unfortunately, as stated above, Mr. Yablon's plan is not a viable solution.

Mr. Yablon's response:

Taking my responses and clarifications into account, perhaps the conclusions of the industry might be re-evaluated. I believe that this plan addresses and resolves all of the public policy issues that are presented by splits and standard overlays. Given its benefits, if this plan is now given a fair evaluation by the industry in terms of "how can we make this work" instead of proclaiming "why this plan won't work", the industry will be providing its customers and our communities a great service.

Thank you very much for your time.

If you have questions or comments regarding this information, please contact me at:

818-999-1070 (voice/voice mail)
818-956-2200 (alt. voice)
818-956-3298 (fax)

UNIFIEDdpo@AOL.com (email)

Gilbert Yablon
The Unified Dialing Plan for Overlays
21914 Dumetz Rd.
Woodland Hills, CA 91364

ATTACHMENT 5

INC ISSUE #141
(THE INDUSTRY NUMBERING COMMITTEE'S REVIEW)

The following page makes up ATTACHMENT 5

INDUSTRY NUMBERING COMMITTEE (INC) ISSUE IDENTIFICATION FORM
ISSUE TITLE:
Non-Disruptive Alternatives for Area Code Relief Using Overlays

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ISSUE ORIGINATOR: Gilbert Yablon
COMPANY: Unified Dialing Plan for Overlays
TELEPHONE #: 818-999-1070
REQUESTED RESOLUTION DATE:
Long before NANPE.

ISSUE #: 141
DATE SUBMITTED: 7/13/98
DATE ACCEPTED: 7/13/98
WORKSHOP ASSIGNED: NPA
CURRENT STATUS: Resolved
RESOLUTION DATE: 1/25/99

1. **ISSUE STATEMENT:** Current NPA relief methods present hardship and expense for local business and the public. A serious and comprehensive evaluation of technically workable, non-disruptive alternatives is warranted. It is estimated that a single area code split costs customers between 20 and 40 million dollars. The transition to 10 digit dialing in overlays is also expensive since all local auto-dialers need to be updated, and efficient abbreviated dialing patterns are permanently abandoned. The disruption from both splits and overlays is taking a toll on the American people. Articles written almost daily accurately portray the magnitude of the problem. The Unified Dialing Plan for Overlays proposes an abbreviated local dialing system which allows 8 digit dialing between traditional 10 digit NPAs in an overlay. It also provides a non-disruptive mechanism for preserving established dialing patterns to existing 7 and 1+10 digit numbers. The plan can co-exist with some of the current proposals for NANPE, and still provide benefit to customers at that time.

2. **SUGGESTED RESOLUTION OR OUTPUT/SERVICE DESIRED:** It is important for the industry to evaluate this plan, both technically and conceptually, with an "outside of the box approach". Look at the benefits it offers customers over the current alternatives, and determine how this plan, or a variation of it, can be considered as one of the available options for area code relief.

3. **OTHER IMPACTS (if any):** North American Numbering Plan Expansion.

4. **CURRENT ACTIVITY:** INC38 - Issue accepted and assigned to NPA Workshop.
INC39 - A presentation was given on the plan by Mr. Yablon. After discussion the Workshop agreed that it could progress the issue no further. A resolution to the issue will be developed at INC40 to place the issue in Initial Closure.
INC40 - Various contributions received from Mr. Yablon. Issue placed in Initial Closure.
INC41 - Issue placed in Final Closure.

5. **RESOLUTION**

The INC identified and discussed the following technical and public policy concerns about Non-Disruptive Alternatives for Area Code Relief Using Overlays:

- Competitive Dialing Issues
- Different Network and Operations Support Systems vs. Current 10 Digit Overlay Implementation Requirements
- Network Timing Issues (i.e., Post Dialing Delay and Announcement Duration)
- Telephone Directories and Listing Services
- End User Concerns
- CPE Impacts
- Concerns About Implementation Costs
- Ubiquitous Deployment Issues (e.g., National Carriers)

Consequently, the INC decided against further work on this issue as it currently exists.

6. **UPDATED:** 1/25/99

New Area Code's a Wrong Number for Some Security Systems

TELECOM TALK

By ELIZABETH DOUGLASS
TIMES STAFF WRITER

Apartment building and condominium owners and residents from Redondo Beach to Malibu and from Gardena to Beverly Hills are learning a hard and costly lesson about area code overlays.

Throughout the 310 area code territory, building security and dial-up telephone entry systems inexplicably stopped working, leaving visitors and delivery workers stranded outside. Building owners and managers were deluged with frantic calls.

"We couldn't figure out what was wrong, the equipment just wasn't dialing," said Philip C. Gould, president of a 27-unit condominium association in Westwood. "It hit a lot of people."

The culprit: the addition of a second area code in the 310 region using the "overlay" method.

The state-approved plan that went into effect April 17 calls for two area codes to serve the same geographic territory and requires callers in the region to dial 1 and the area code and the number.

The four extra digits, however, tripped up many building security and entry systems that are programmed to handle seven-digit phone numbers. Such dial-up systems typically allow visitors to key in a resident's code (often two or three digits), triggering the system to dial the resident's pre-programmed phone number.

"It wipes out both the security systems and the entry systems, so the impact is quite pronounced," said Harold Greenberg, president of the Apartment Assn. of Greater Los Angeles, which serves building owners and managers covering 300,000 units. "Everybody got caught flat-footed on this, and they're frantic."

There are an estimated 13,562 apartment and condominium buildings in the 310 overlay region, representing about 187,000 units, according to figures from Marcus & Millichap, a Palo Alto-based real estate brokerage.

Greenberg estimated that up to 70% of the buildings have systems old enough to need a major upgrade.

Newer dial-up entry systems can be fixed by upgrading the circuit board inside and reprogramming all the phone numbers, according to Bill Lamb, owner of **Lamb Security Systems** in South El Monte. New boards cost from $475 to $575 each, Lamb said, and the total cost depends on the amount of phone-number reprogramming.

Systems 3 years or older, however, may not be upgradeable, which means building owners would have to replace the equipment. Replacement costs range from $1,400 to $3,000, Lamb said.

Complicating the situation, many suppliers have been flooded with orders, and it can take several days or weeks for buildings to fix the problem. And until the problems are fixed, the systems won't work.

Harris Properties, a Culver City firm that manages apartment and condominium buildings, started upgrading entry equipment in January and spent $15,000 to $20,000 to outfit 30 buildings before 11-digit dialing began, according to Lionel Harris, president of the firm.

Once the new dialing system took effect, Harris said, one of the precious new computer boards was stolen. Harris, who said the board was probably taken by a vendor who was short on supplies, had to re-secure all the equipment to prevent further thefts.

Gould said his building in Westwood, populated primarily by older residents, went without its entry system for about a week—raising concerns about emergency access, among other things.

"We were quoted a price of $2,100 for the new equipment," Gould said, "and we had to go for it because we couldn't go out to bid and put people's lives in danger" with the delay.

State and federal regulators have long touted area code overlays as a method that is cheaper for the public than a traditional geographic split.

In a geographic split, a new area code is assigned. That can result in changes to stationery, business cards and potentially lost business if customers don't know about the new phone number.

But the entry-system problem shows that the overlay method has its costs as well.

Residents and businesses in the 310 region, for example, also have had to pay to have their alarm systems reprogrammed or upgraded. In addition, some elevator emergency phones are not programmed to handle 11-digit dialing, and it can cost about $150 per elevator to fix the problem.

Meanwhile, dialing 11 digits on every call—even those within the same area code—is continuing to stir rancor within 310.

The region's second area code, 424, is scheduled to begin being issued on July 17. But some legislators and others are urging the state to delay the introduction of 424 so other number conservation efforts can be tried.

For now, however, building owners and others in 310 have no choice but to pay for upgrades or replace dial-up systems.

Elizabeth Douglass can be reached at elizabeth.douglass@latimes.com.

ATTACHMENT 7

SMALL BUSINESS

Bill to Put Area Code Switches on Hold Has Support of Entrepreneurs

AT ISSUE

VICKI TORRES

A bill that would impose a statewide moratorium on area code changes is hitting a nerve with angry small-business owners who want an end to code confusion.

The Encino, West Hollywood and Beverly Hills chambers of commerce have endorsed AB 818, introduced by Assemblyman Wally Knox (D-Los Angeles). The California Chamber of Commerce and the California Small Business Assn. are watching its progress. And small-business owners hurt by area code switches say it's about time somebody did something.

The bill, which goes before the Assembly Utilities and Commerce Committee next week, would impose a moratorium on area code changes beginning Jan. 1. It also would require the California Public Utilities Commission to work out alternative solutions to satisfying the demand for new phone numbers before creating more area codes.

Southern California businesses already struggle with 13 area codes. Five more will be in use by May 2000, and three others are proposed. They involve splits—cutting areas in two and adding a new area code—and overlays—imposing a new area code for all new users in old areas.

"I'm all for a moratorium, because it's been a colossal hassle having Costa Mesa split up the way it is," said Jennifer Stockland, owner of Costa Mesa Florists, who last year had to change her area code from 714 to 949.

"We're constantly having to ask people what the area code is and then we get the wrong one," she added. "It divides the city. We've had to have everything reprinted, business cards, pamphlets, you name it."

Area code changes can be a nightmare for businesses because the telephone number is a lifeline to customers, said Charles Carbone, a consumer advocate with the Utility Consumers' Action Network, a San Diego-based consumer rights organization with about 8,000 small-business owners among its 40,000 members.

"If it's not easy to get hold of you, and you're in a highly competitive product or service, your customer is not going to wait," Carbone said. "They're going to go immediately to your competitor, whose number they have in front of them."

ATTACHMENT 7
(continued)

Damage Business

Business owners say that overlays, touted as the solution to area code splits, create their own problems, such as saddling a growing business with two area codes. Danny Ruiz, pharmacist at Statscript Pharmacy in West Hollywood, fears that adding a phone line with the 424 area code, when he already has 310, will confuse his elderly customers, who may stop turning to him for prescriptions and medical advice.

Laria Pippen, interim president of the West Hollywood Chamber of Commerce, says the city is only 1.9 square miles but will have three area codes—310, 323 and 424—when the new 424 overlay takes effect in July.

For companies that rely on local identity, the lack of a geography-specific area code can damage business, as Stockland, the Costa Mesa florist, well knows. Out-of-state customers seeking a local florist felt confident that they were getting a bona fide Costa Mesa florist when she had a 714 area code, Stockland said. But since the change to 949 last year, long-distance phone customers now question her location, thinking she's moved outside the city.

"We hear personal, heartbreaking stories," said Mary Jo Borak, a regulatory analyst with the PUC, who regularly holds public hearings on area codes. (The PUC has not taken a position on Knox's bill.) Borak said one Oakland business owner, who repairs big-rig truck axles, told state officials his area code losses came to $50,000, because he relied on business cards handed out to truckers.

When Oakland switched from 415 to 650, he had no way to notify thousands of truckers across the nation about his outdated phone number. Although he spent $30,000 in additional advertising, his business still declined by $20,000 in one year, Borak said.

Knox insists that the technology exists to provide area code relief, but that industry and PUC inertia, plus a conflicting maze of federal and state regulations, block the solution and create number hoarding and area code chaos.

In California, for example, an estimated 180 million phone numbers are available under current area codes, but only 30 million are in use, according to PUC Commissioner Henry Duque. Yet the push for more area codes continues.

The reason is the inefficient way phone service computers and software keep track of phone numbers assigned to service carriers. The equipment keeps track, not of individual numbers, but of the prefix, the first three digits of each seven-digit phone number.

Each prefix has 10,000 available numbers. A new phone company, for example, gets 10,000 numbers at a time for each relatively small geographic area, even if it wants only 3,000 numbers.

Demand from small-business owners and others with one or two voice lines, a fax line, Internet connections, pagers, cell-phones and even car phones is not the problem. The allocation system is the problem.

Fixing that problem will require not only Knox's bill in California, but also action at the federal level. The North American phone numbering system, if left as is, has a shelf life of only 20 years, according to federal estimates.

The Federal Communications Commission is considering a proposal to conserve numbers using existing technology. The proposals include assigning numbers individually or in smaller blocks of 1,000, called "number pooling," to phone service carriers. Hearings may be held later this year, but any proposed solution would take three to four years to implement and involve substantial expense and reprogramming of equipment by major carriers.

Relief Efforts Appear Stalled

The telecommunications industry has begun looking at expanding the number of digits used in phone numbers by one or two numbers. Telephone system equipment here and abroad would have to be changed, as well as consumer phone equipment, phone-reliant equipment such as alarms and databases with phone numbers, in addition to the expense of informing others.

At the state level, progress on area code relief appears stalled because California's phone carriers are not willing to undertake number pooling voluntarily. The PUC says it is blocked from ordering carriers to take such conservation measures because of a September FCC ruling in a Pennsylvania case, Borak said.

For its part, the FCC denies that it has blocked mandatory pooling, saying it encourages states to submit plans and citing the example of Illinois, where mandatory number pooling recently received FCC approval.

The dispute is symbolic of the misunderstandings and conflicts in authority that exist between state and federal communications officials, with each pointing a finger at the other for stalled progress and delays. It helps explain why phone users keep shouldering the burden of more area codes when demand actually is coming from telecommunication companies and not users.

Knox's bill attempts to break through the logjam by requiring the PUC to seek FCC permission for number pooling, to set aside certain area codes for machines such as faxes and modems, and to reassign and recycle disconnected numbers faster.

"I don't think for a moment I've worked out the answer or resolution, but it's clear to me someone needs to play a role," Knox said.

For online information about area codes, go to *http://www.cpuc.ca.gov* or *http://www.pacbell.com.*

Times staff writer Vicki Torres can be reached at (213) 237-6553 or at *vicki.torres@latimes.com.*

ATTACHMENT 8

Los Angeles Times

SATURDAY, FEBRUARY 21, 1998
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Critics See No Need for New Area Codes

By JUBE SHIVER Jr.
TIMES STAFF WRITER

WASHINGTON—The costly and disruptive nationwide explosion of area codes has long been blamed on popular gadgets such as fax machines and wireless phones, but critics are now charging that the shortage of telephone numbers is largely artificial.

Regulators in nearly half a dozen states are moving to impose moratoriums on new area codes out of concern that the burgeoning telephone industry is warehousing a vast reservoir of numbers instead of giving them to new customers.

Poor management of telephone numbers, coupled with a refusal by the

Please see PHONES, A20

PHONES: ATTACHMENT 8 (continued)

Continued from A1

telephone industry to invest in new technology, is driving a need for more new area codes than are necessary, they say.

The repeated changes of area codes, particularly in California, have inconvenienced tens of millions of U.S. consumers and saddled businesses with huge costs, triggering a growing consumer backlash that has caught federal regulators by surprise.

"Telephone number assignment policies are broken and antiquated and reflect the old Ma Bell monopoly when there was only one phone company serving a geographic area," said John Hanger, a Pennsylvania Public Utilities Commissioner. "The current system is lunacy. It has to end."

The telephone industry denies that it has created an artificial shortage, arguing that it does not have the technology to avoid creating area codes. Critics say the technology does exist but that the phone companies find it cheaper to create area codes than invest in more sophisticated switching equipment.

Each area code change costs companies as much as $40 million, according to one Pennsylvania estimate. Consumers are forced to reprogram their computers and home burglar alarms, as well as notify friends and relatives.

Over the past three years, the number of U.S. area codes has surged 67%. The impact is especially large in California, which by the end of this year will have more than doubled the 10 area codes the state had in 1991. Exactly how much number hoarding is going on in California is unclear.

But of the 1.5 billion possible phone numbers created by the existing 193 area codes nationwide, about half a billion are not actively used, according to Lee Selwyn, a Boston consultant who is assisting Illinois regulators in examining the issue.

Selwyn said there are enough surplus telephone numbers to eliminate more than 60 area codes. The telephone industry acknowledges that there are surplus telephone numbers, but has not disclosed its estimates.

The recent rise in area codes, many experts agree, is more a case of the proliferation of new phone companies than the fast-growing communications technologies traditionally blamed for the increase.

There are 55 million cellular phones in operation and 45 million pagers, besides the 174 million residential and business phone lines, according to industry estimates. (Each business line, however, can support up to 24 telephones.)

Every carrier licensed by the government to offer service in a state is entitled to order phone numbers. And in most instances, because there is no penalty for overestimating demand, they load up. As a result, phone competition can easily send the arithmetic of phone numbers off the charts.

The problem starts with the technology of switching equipment, which requires that allotments of telephone numbers be made in batches of 10,000. But in many cases phone or paging companies do not have customers for that many numbers.

The Pennsylvania Utility Commission found that some local phone companies holding blocks of 10,000 numbers had given fewer than half a dozen to subscribers.

As competition in the telephone industry heats up, more phone companies are seeking batches of phone numbers.

In California, there are more than 60 carriers licensed to offer wireless or local phone service in the state. To compete statewide, each of those carriers needs an allotment of 10,000 numbers in each of 725 local dialing areas: a total of 7.25 million phone numbers for each company.

Regulators Ponder How to Deal With 310 Region

Yet another area code is on the way, this time targeting the 310 area, but code administrators could not decide whether to divide the region again or issue a second area code to work within the existing 310 boundaries.

The decision, which is up to state regulators, will affect Los Angeles County and a small part of Ventura County.

If the state chooses to split the region, a new area code would be assigned for El Segundo, Manhattan Beach, Hermosa Beach, Redondo Beach, Compton, Carson, Torrance, Gardena, Catalina Island, the Palos Verdes Peninsula, part of Inglewood and most of Hawthorne.

The new code would be introduced July 17, 1999.

Meanwhile, the "get acquainted" period for the new 626 area code expires early today.

—ELIZABETH DOUGLASS

Massive shifts in area codes are wreaking havoc on many businesses.

John Bauer, a Fort Lauderdale food importer-exporter, said the region's recent addition of the 954 area code cost him several thousand dollars in direct expenses and untold lost business from overseas customers whose telephone equipment cannot handle new U.S. area codes without the traditional "0" or "1" in the middle.

To cope with the problem, Bauer said, he maintains a separate telephone number in the old 305 area code that serves Miami, and has calls forwarded to him in Fort Lauderdale.

"We've had to change everything," Bauer said. "There must be a better way than constantly changing area codes. It's a real pain."

Around the nation, consumer opposition to area code proliferation is hardening.

The Ohio town of Parma last year presented former FCC Chairman Reed Hundt with petitions signed by 4,000 residents opposed to the addition of a 440 area code.

Hundt said later he was surprised by the depth of the public outcry, having never seen another case "where so many citizens have complained about the process." But state officials say that consumer anger over area codes should come as no surprise.

In Georgia, Public Service Commissioner Stan Wise said that if his state were to implement "an area code split, people would march on the Capitol."

The nation's area code system has been controlled by the Baby Bells and their research arm, Bellcore. But under a plan devised by an FCC advisory group, known as the North American Numbering Council, that authority is being transferred over the next year to contractor Lockheed Martin Corp. But whether Lockheed can stop the proliferation of area codes will depend on new technology.

In the current system, a caller dials seven to 11 numbers and initiates a series of electronic negotiations that makes a connection or results in a busy signal. When the number is received by the central office telephone switch, it checks to see whether the first digit is a "1." If so, it knows the call is long distance and sends the call to the designated long distance company for processing.

The long distance company examines the area code and three-number prefix to route the call to the local switch that controls the dialed phone number. Engineers say these central office switches are the Achilles' heel of the system.

They require that telephone numbers be allocated in blocks of 10,000 because the switches are not smart enough to route calls unless all the numbers within a prefix belong to a single carrier. And carriers need blocks of 10,000 for each local dialing area or so-called rate center.

Critics say that more sophisticated switches are available that can handle calls to prefixes that are shared by more than one telephone company. Such technology would delay the need for new area codes for several years, Selwyn said.

Pennsylvania, Illinois and some other states are pressuring the phone industry to modify the phone network so that numbers could be allocated in units of 1,000 or less.

But some numbering officials say that the telephone industry is years away from updating the nation's phone network to allocate numbers in the smaller quantities sought by state regulators.

"We have to fix the network and that's a big and complicated job," said Ron Conners, director of the Lockheed operation that manages the phone number system. "There are more than 10,000 switches out in the phone network. The problem is not that we are running out of phone numbers; it's that we are running out of these blocks of 10,000" units.

But faced with increasingly frequent requests to add area codes, irate state officials are vowing to crack down on area code proliferation.

Hanger and his four colleagues on the Pennsylvania Public Utility Commission last summer rejected a request to create area codes in a vast area of the state covered by the 215, 610 and 717 area codes and ordered the industry to conserve phone numbers instead. The states of Virginia, New Jersey and Illinois are weighing similar bans.

Selwyn, who is president of Economics and Technology Inc., said the area code explosion has been exacerbated by a 1995 Federal Communications Commission decision barring states from giving mobile phone users their own telephone area code.

He noted that New York City, the nation's largest telephone market and the last area allowed to segregate wireless carriers by area code, has added only one area code in the last 12 years—other than the 917 code set aside for wireless carriers in 1992. By contrast, Chicago and Los Angeles have each added five or more area codes in that period.

But the FCC argues that segregating cellular users by area code would be unfair because they would be the only consumers required to dial 11 digits for local calls.

The FCC does not oppose all overlays, which can help deal with demand for new telephone numbers. Unlike geographically splitting one area code in two, overlays superimpose a new area code on a region for new customers and existing customers retain their area codes. But the downside is that everyone would have to dial 11 numbers to make a local call.

Nonetheless, state regulators see overlays for wireless as a partial solution. The Connecticut Department of Public Utility Control voted last month to segregate all wireless services in their own area code and said it would ask the FCC to reconsider its prohibition.

Officials of the wireless industry, which is signing up 28,000 subscribers a day, say that they shouldn't be singled out for blame for area code proliferation.

At the current pace of number use, the available pool of three-digit area codes will be exhausted in about 30 years.

ATTACHMENT 9

Area Codes

■ How is it we have to confuse ourselves so much with additional area codes and overlays within those areas, when many cities in Europe and Japan have merely added one single digit (and often the same digit) to existing numbers to handle the problem of demand for more telephone numbers? It is a lot easier to remember to just add the same number to everyone's old number than to try and figure out what new and unknown three-digit area code has been invented.

ROBERT SHARP
South Pasadena

2-15-99

Area Codes

■ Re Jacob Tom's Voices piece, Jan. 30: I have long wondered why California is unable to implement eight-digit phone numbers. I sent correspondence to the PUC with this suggestion and received no reply. The phone companies of America seem to have assured a messy future by not changing their equipment to allow for a one-time change to eight-digit phone numbers.

Not only could Los Angeles regain the 213 area code throughout the entire city, but everyone would make the change at once, thereby eliminating future regional changes.

Learn from Hong Kong, England, Australia, Singapore and Japan, and go to eight-digit phone numbers; it's a solution that works.

MARK NEUMANN
Lakewood

3-25-99

11-Digit Dialing

■ Re new telephone "overlay" codes that require people to dial 11 digits (March 19): The telephone companies have devised the most inefficient number system since Roman numerals—add one new phone number to a filled-up area and the result is an 11-digit number for everyone, even for local calls!

LEWIS H. COHEN
Riverside

■ The only long-term solution to the area code problem is to make every home telephone number nine digits instead of seven. Why not set a date where every phone number in the country is lengthened by adding two zeros to the end of the number?

This way we keep a simpler area code map and avoid these terrible overlays. As more numbers are required, they can end in 01, 02, etc., right up to 99. It makes two fewer digits for everyone living with an area code overlay.

TIMOTHY BOND
Hollywood

4-29-99

Area Codes

■ The loss of business due to new area code changes must be enormous—this system of changing these codes is disruptive and fatal for some businesses. Customers cannot locate their party after they are told by a telephone voice, "Sorry, your call cannot be completed as dialed." It's a little late to change this system, but not too late to start a new way of adding telephone numbers.

For example, adding one digit to the present 10 numbers would augment the system with 99,999,999 new numbers for each present area code, thereby assuring enough numbers until the 22nd century.

JOEL KAYE
Sherman Oaks

Area Codes

■ Splitting an area code into two area codes doubles the available phone numbers. However, simply adding another digit to existing phone numbers (making them eight numbers instead of seven) leads to a tenfold increase in phone numbers for an area code. And isn't it easier to remember one more number rather than three?

Existing numbers could all just have a zero added to them. What about this easy solution?

ALAN C. WEINBERG
Fullerton

Phone Codes

■ Instead of more area codes, couldn't customers have the flexibility of adding a mnemonic at the end of their seven digits: W for work, F for fax, P for pager and C for cellular, for example? This would allow one main phone number to replace as many as four separate numbers. As it is, area codes have strayed from their original design of having the second number always being lower than the first and third numbers (e.g., 213, 508, 617), which was designed to help differentiate the area code from the actual number.

Most people cannot retain sequences of more than seven digits. This mnemonic character approach would help reduce the proliferation of new codes that no longer adhere to the original area code format.

BRUCE M. GALE
Los Angeles

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's Own Motion Regarding Commission Policy on Area Code Relief.	R 98-12-014 (Filed December 17, 1998)

COMMENTS OF GILBERT J. YABLON REGARDING 8-DIGIT DIALING FOR OVERLAYS, FILED PURSUANT TO ADMINISTRATIVE LAW JUDGE TIMOTHY KENNEY'S RULING OF JUNE 29, 1999

VERIFICATION

I, Gilbert J. Yablon, am one of the parties in the above-entitled matter; the statements in the foregoing documents are true of my knowledge, except as to matters which are therein stated on information and belief, and as to those matters, I believe them to be true.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on July 23, 1999 at Los Angeles, California

Signed _____
Gilbert J. Yablon