

FINAL PLAN DOCUMENT
NPA-416
NUMBERING RELIEF



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1.0 **Executive summary**

Based on the 1996 Central Office Code Utilization Survey (COCUS), the existing 792 NXX codes are forecasted to exhaust IIQ 2000. A review of the exhaust date will be undertaken on an annual basis.

This Final Planning Document (FPD) recommends the relief of NPA 416 utilizing the distributed overlay option. By this method, the new NPA is added to the NPA requiring relief and shares exactly the same geographic boundaries. When growth NXX codes are required, they are assigned from the new NPA.

The recommendation is the result of a consensus obtained at the third public meeting held with telecommunications industry members and regulators. This recommendation is also based on an evaluation of the three retained options (core/municipality split, east/west split and distributed overlay) with the following considerations in favour of the overlay:

- Customer's desire to choose an option that preserved their existing NPA
- No number changes for existing customers
- Most economical alternative
- Least disruptive to end users
- Greater longevity of numbering resource before a new NPA will be required
- 10 digit dialing already required for local calls between NPAs

This Final Planning Document is being issued in accordance with Industry Carriers Compatibility Forum (ICCF) guidelines.

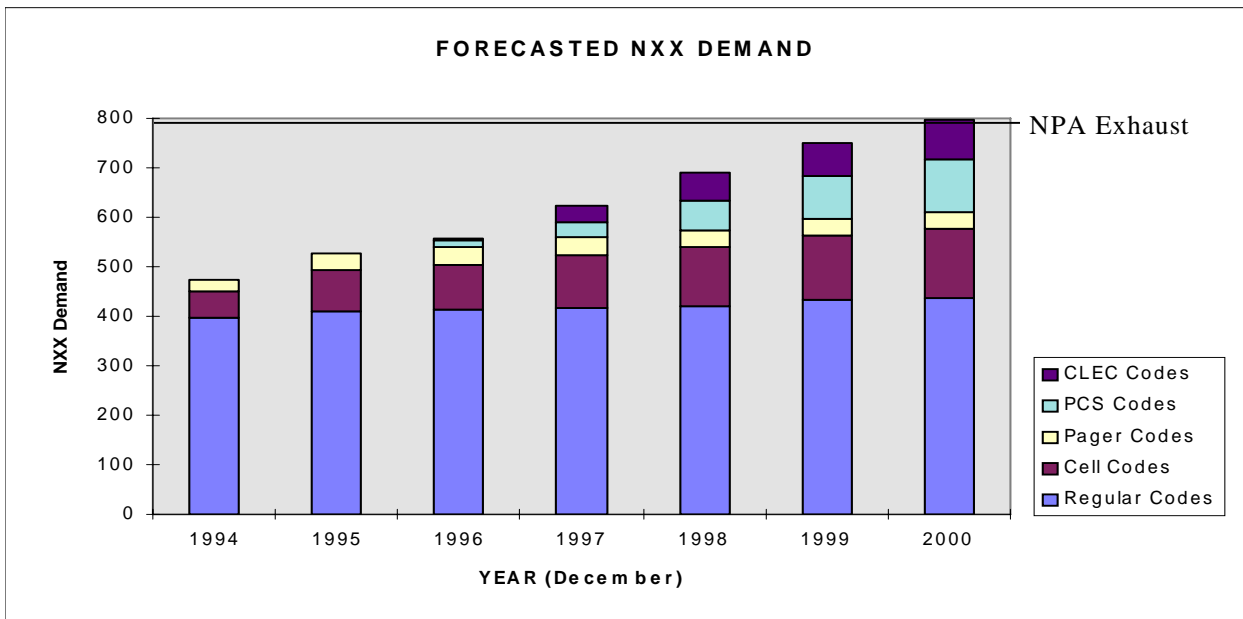
2.0 Introduction

In October 1993, relief to NPA 416 was provided by geographically splitting the area. Metropolitan Toronto retained NPA 416 and the remainder of the territory was assigned NPA 905 (attachment 1). Coincident with the split, 10 digit dialing became mandatory for local calls between NPA's; while dialing local calls within the NPA remained 7 digits. At the time of assigning NPA 905, Bellcore strongly suggested the overlay option be considered for future NPA 416 relief since the small geographic area it encompasses would likely make future geographical splits impractical.

The existing 416 NPA comprises the municipalities of Toronto, North York, Etobicoke, East York, York and Scarborough. All calls originating and completing within the NPA are local and hence only 7 digit dialing is necessary.

3.0 Central Office Code Exhaust (1996 View)

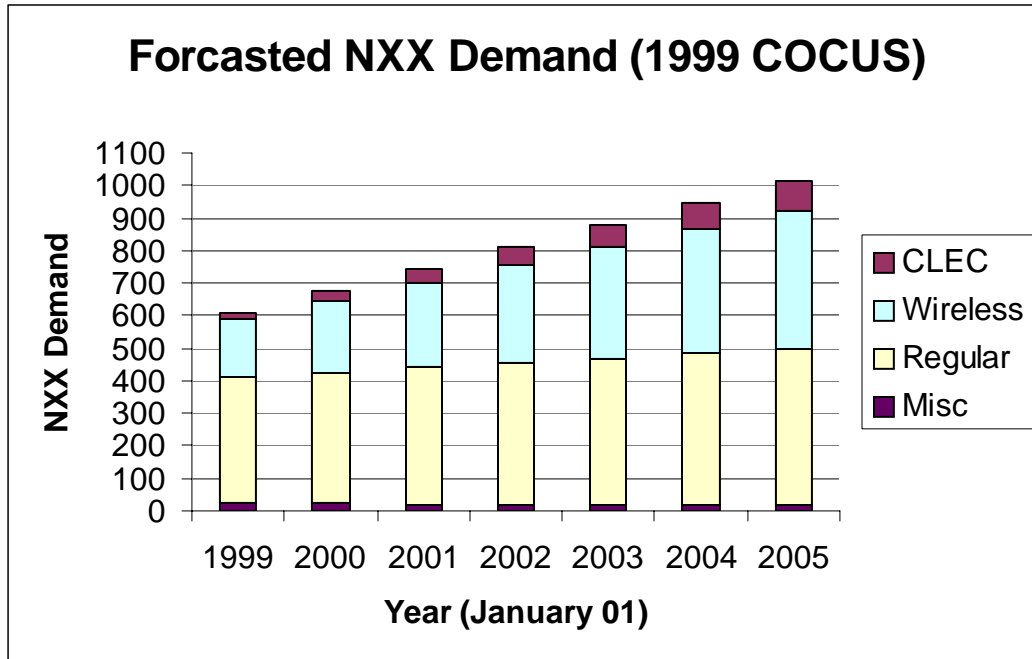
Central Office NXX codes are expected to exhaust in NPA 416 by IIQ 2000 based on the 1996 Central Office Code Utilization Survey (COCUS) issued by the Industry Numbering Administrator. The forecasted NXX demand until year 2000 is summarized in the following graph.



A review of the forecast will be undertaken on an annual basis to monitor the relief timing requirement.

3.1 Central Office Code Exhaust (1999 View)

Central Office NXX codes are expected to exhaust in NPA 416 by IIIQ 2001 based on the 1999 Central Office Code Utilization Survey (COCUS) issued by the Canadian Numbering Administrator. The forecasted NXX demand until year 2005 is summarized in the following graph.



A special review of the actual growth and forecasted demand will be undertaken by the CNA on a biannual basis to monitor the relief timing requirement.

CNA will develop a contingency plan coincident with the 2000 COCUS and present it to the 416 NPA Relief Planning Committee.

Note: Section 3.1 is added to the pre-approved "Final Plan document NPA – 416 Numbering Relief" based on August 18, 1999 Industry consensus for the Regulatory approval.

4.0 **Relief Alternatives**

Based on ICCF guidelines, the following alternatives were evaluated:

1) Geographic Split

By this method, the exhausting NPA is split into two geographic areas, leaving the existing NPA code to serve an area with the highest customer density (in order to minimize number changes), and assigning a new NPA code to the remaining area. This method traditionally divides areas by jurisdictional, natural or physical boundaries between the old and the new NPA.

2) Distributed Overlay

An NPA overlay occurs when more than one NPA code serves the same geographic area. Code relief is provided by opening up a new NPA code when the existing NPA is exhausted. Numbers from the new NPA are assigned to new growth on a carrier neutral basis, i.e., first come first served. This method necessitates 10 digit dialing of local calls between the old and the new NPA's coincident with NXX codes being implemented in the new NPA. The distributed overlay strategy is considered in situations when growth in telephone numbers is expected to be more or less evenly distributed throughout the existing NPA.

3) Overlay with a unique code for Wireless

4) Realignment boundaries with NPA 905

In an NPA boundary realignment the NPA requiring relief is adjacent to an NPA within the same province which has spare NXX code capacity. A boundary shift occurs so that spare codes in the adjacent NPA can be used in the NPA requiring relief. As a result, the geographic of the exhausting NPA shrinks while the geographic area of the NPA with spare capacity expands.

The unique NPA code for wireless services was removed as a viable alternative based on INC 96-0308-011 and based on recognition that this is not considered to be a competitively neutral relief option.

The boundary realignment, with NPA 905, option was also discarded as a viable alternative since it would only provide relief until year 2002 when both NPAs would then require relief.

The two discarded alternatives were addressed at the NPA 416 Initial Public Meeting dated May 8, 1996. Please refer to minutes for further details.

5.0 Retained Alternatives

Based on the above analysis, two options were retained:

- 1) Geographic Split
 - East/West (attachment #2)
 - Core/Municipality (attachment #3)
- 2) Distributed Overlay

The following is a summary comparison of the retained options.

Description	Alternatives		
	Municipality Split	East/West Split	Distributed Overlay
Exhaust-NPA 416	2012	2011	N/A
Exhaust-New NPA	2021	2023	2017
# Changes Required	2.5M	2.5M	Nil
Dialing Impact	7D/10D	7D/10D	10D
Permissive Dialing	Required	Required	Not Applicable
Industry Costs	39.6M	39.6M	25.6M

Furthermore telephone exchange boundaries do not align with natural boundaries (eg: rivers) or municipal boundaries in a way which would evenly split customers into two NPA's or be recognizable by the public.

6.0 **Focus Groups/ Phone-in Surveys**

As reflected in the third public meeting minutes, dated October 22, 1996, customer groups still prefer geographic splits to overlays. They are familiar with splits whereas overlays are a relatively new concept and is still to gain widespread acceptance in the U.S.

The results of the phone-in survey where customers were given three choices (two splits and one overlay), indicated the customers tended to vote for split options that allowed them to retain their existing 416 NPA. The overlay option gained acceptance when the respondents in question would have to change their NPA regardless of the split option chosen.

The results, of the phone-in survey where customers were given a choice of either a split or overlay, indicated that 48% preferred overlay; 31% split; 18% were indifferent and 3% said "it depends".

7.0 **Recommendation**

While consumer groups have not unanimously embraced the overlay option, the industry has opted for this alternative as the most viable for the following reasons:

- Customers basically wish to retain their existing NPA and the overlay option would allow them to do so. There will be less disruption and lower costs to existing customers as it avoids approximately 2.5M customers from requiring an NPA number change.
- Although customers would have to universally dial 10 digits, this is not perceived as a major issue since 10 digit dialing is already prevalent with calls to NPA 905 and for wireless calls. With the overlay option, customers will dial 10 digits for local calls and 11 digits for toll calls. This should prove less confusing than the present situation where customers dial 7 or 10 digits for local calls and 11 digits for toll calls.
- From an industry standpoint, the overlay option is less costly by about \$14M and also provides the longest period before relief is again required.
- The absence of clearly defined boundaries for a split and the density and relatively small geographic area favours overlay.
- The industry does not anticipate the same degree of negative reaction from local competitors as experienced in the U.S. Local competitors should be firmly established by year 2000 since local competition is expected during 1997.
- Local Number Portability (LNP) is expected to be implemented in this area before NPA-416 exhaust.
- It is anticipated that by year 2000 when this overlay is to be implemented in NPA 416 this option would have been in effect in at least two locations in the U.S.; namely NPAs 410 and 301 in Maryland scheduled for relief in 1997.

8.0 Dialing Changes

The following table reflects the dialing arrangement for the overlay alternative for local calls only. The dialing arrangement (1+NPA+7D) for toll calls remain the same.

DISTRIBUTED OVERLAY	TODAY	AFTER RELIEF
Landline to Wireless within NPA	7 digits	10 digits
Landline to Wireless between NPAs	N/A	10 digits
Landline to Landline within NPA	7 digits	10 digits
Landline to Landline between NPAs	N/A	10 digits
Wireless to Wireless within NPA	7 digits	10 digits
Wireless to Wireless between NPAs	N/A	10 digits

9.0 NPA Relief Schedule (1996 View)

The following is a schedule of completed and proposed activities. Proposed activity dates are expected to vary.

<u>Dates</u>	<u>Activities</u>	<u>Status</u>
March 1996	Initial Planning Document	Completed
May 1996	NPA Relief Industry Meetings	Completed
June 1996	NPA Relief Industry Meetings	Complete
October 1996	Industry Consensus	Completed
December 1996	Final Plan Document	Completed
January 1997	Industry Canada Approves Plan	Proposed
February 1997	Apply to Bellcore for New NPA	Proposed
March 1997	Bellcore Industry Letter	Proposed
Apr. '97- Mar. 2000	Implementation activities	Proposed
March 1999	10D Dialing Adjust Period Begins	Proposed
April 2000	First NXX Opened in New NPA	Proposed

9.1 NPA Relief Schedule (Revised) (1999 View)

The following is a schedule of completed and proposed activities.
 Some proposed activity dates may vary based upon the timing of regulatory approval

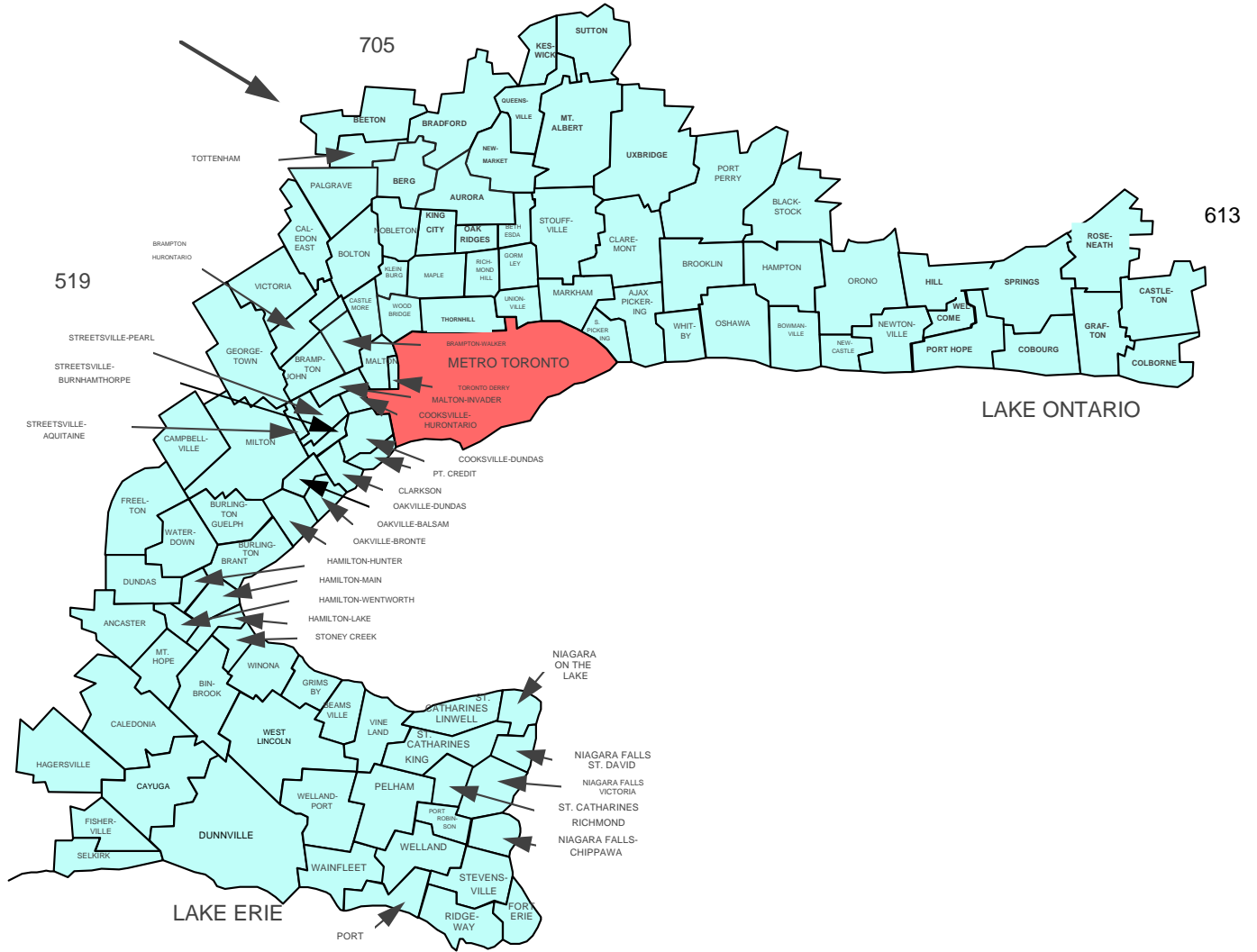
<u>Dates</u>	<u>Activities</u>	<u>Status</u>
March 1996	Initial Planning Document	Completed
May 1996	NPA Relief Industry Meetings	Completed
June 1996	NPA Relief Industry Meetings	Complete
October 1996	Industry Consensus	Completed
December 1996	Final Plan Document	Completed
January 1997	Industry Canada Approves Plan	Completed
August 1999	Industry reviews 1999 COCUS	Completed
August 1999	Industry Finalizes New Dates	Completed
August 1999	CRTC Approves Revised Dates	Proposed
August 1999	Apply to NANPA for New NPA	Proposed
February 2000	Bellcore Industry Letter	Proposed
* Oct. 1999- Jan. 2001	Implementation activities	Proposed
* January 2001	10D Dialing Announcement Begins	Proposed
* March 5, 2001	First NXX Opens in New NPA	Proposed

Note: Section 9.1 is added to the previously approved "Final Plan document NPA – 416 Numbering Relief" based on August 18, 1999 Industry consensus on the New NPA implementation Date for the Regulatory approval.

- * Implementation activities include the communications, system modification and other network changes
- * All local service providers will implement standard 10 digit dialing announcement effective January 8, 2001 and adjust the service level based upon the effectiveness of the advertising campaign
- * Effective March 5, 2001 CO Codes in the new NPA can be activated, this means that a CO Code application for the codes in the new NPA can be placed as early as December 30, 2000.

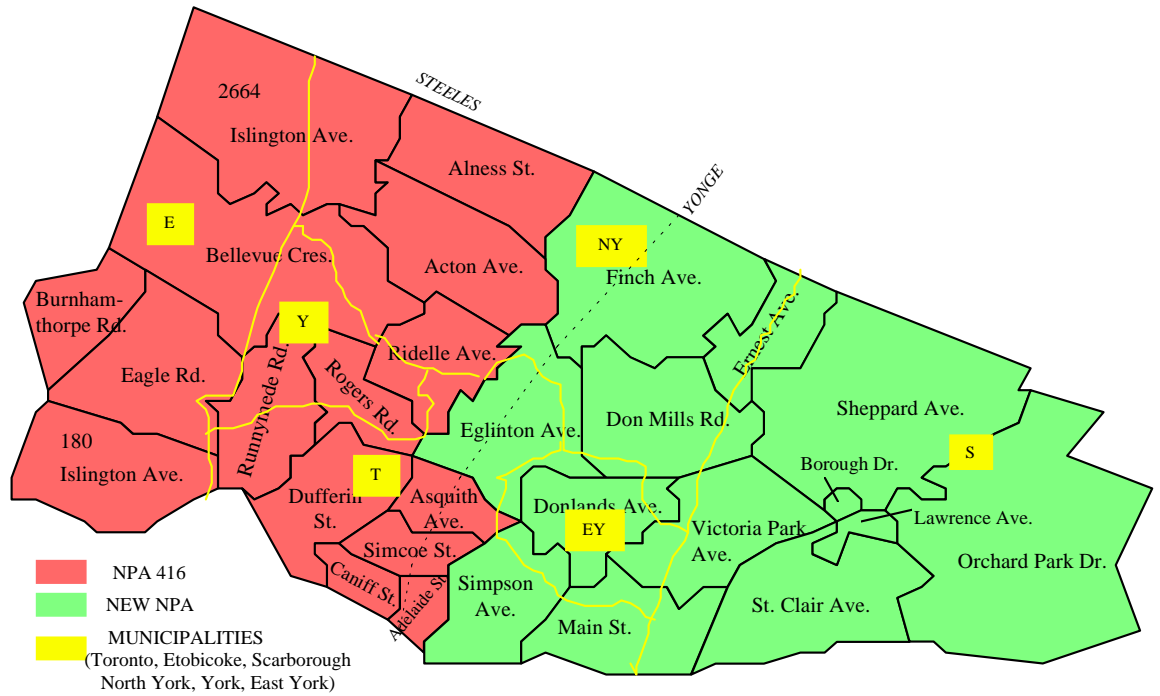
ATTACHMENT 1

NPA's 416 & 905



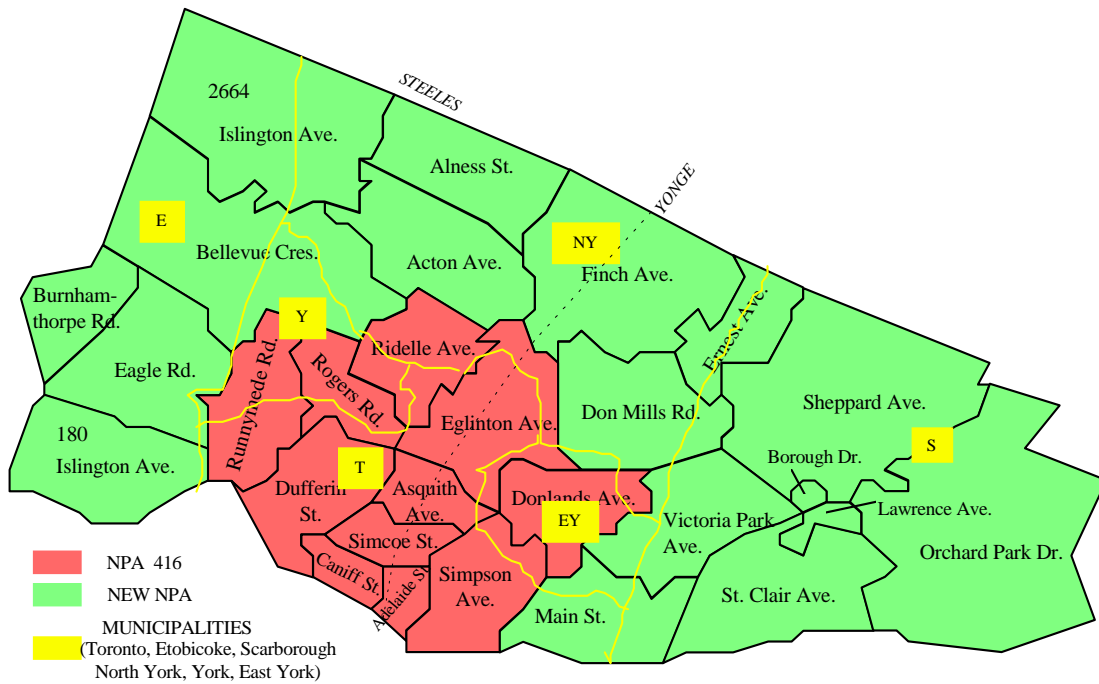
ATTACHMENT 2

416 EAST/WEST SPLIT



ATTACHMENT 3

416 MUNICIPALITY SPLIT



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