Title: Use of eTFO in Nb Support Mode

Source: Nortel Networks

Document for: Information

Agenda:

Introduction

During the SA2 review of the eTFO work item the question of the framing protocol
that should be used to support eTFO on the Nb interface was discussed. A preliminary
investigation took place, and a number of different options for support of eTFO on Nb
noted. These options were not analyzed in detail because of uncertainty over the
normal operation of the Nb interface for transport of G711.

After more careful analysis by CN experts, it has been determined that it is normal for
the Nb interface to use Iu-FP support mode for transport of G.711 (NP-030127). With
this information, the framing protocol choice for eTFO on the Nb can be more easily
analyzed.

Technical Options

There are three phases of eTFO on the Nb interface:
1.   Connection establishment framing protocol (G.711 mode). eTFO is not active.
2.   eTFO establishment. G.711 mode with bit-stealing for eTFO signalling.
3.   eTFO framing protocol (compressed speech mode)

In SA2 two options for phase 1 and 2 were proposed - either Iu-FP in support or
transparent mode. Given the new information from CN we would recommend that
eTFO uses support mode for these phases.

We note that use of support mode in Phases 1 and 2 provides an opportunity for hop-
by-hop negotiation of eTFO capability between Media Gateways (using currently
spare bits in the support mode PCM PDUs). As a result, Based on the output of this
negotiation, either TFO or eTFO can be used between the gateways as appropriate. In
all cases the TFO negotiation takes place end-to-end, only the aspects specific to
eTFO need to be handled on a hop-by-hop basis. This allows eTFO to be phased in to
a network in a backwards compatible way.

For phase 3 there were four framing protocol options identified. However the
preferred method indicated to SA2 was existing IuFP in support mode with the
addition of a new type 14 PDU for transport of TFO control messages.

Conclusions

The CN clarification on the use of the Nb protocol has simplified the analysis of the eTFO protocol options on the Nb interface. Given the CN conclusion the preferred eTFO framing protocol would be to use Iu-FP support mode for all three phases of eTFO operation. Relatively simple extensions to the existing Iu-FP to support eTFO would be required.

The use of Support Mode also provides a mechanism for hop by hop negotiation of eTFO support in media gateways making the introduction of eTFO easier.