ANCP Base Protocol Status

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Outline

- Changes from -09 to -10

- Issues
  - Capabilities and technology types
  - Version registry
  - Unspecified Tech Type codepoints
  - Underspecified VLAN tag field
  - GSMPv3 vs. ANCP registries
  - No mention of X-Function in Function registry
  - UTF-8 for text fields?

Changes From -09 to -10

- Summary
  - Moved text to put related pieces together (see appendix of -10 document)
  - Modified text to:
    - deemphasize GSMPv3
    - eliminate redundancy
    - clarify
    - make presentation more uniform
  - Some new technical content (next slide)

Changes From -09 to -10 (cont'd)

- Technical changes (clarifications)
    - New definitions: TLV, capability, ANCP session
    - Narratives replaced by RFC 2119 requirement language
    - Added detail on Transaction ID initialization
    - Added statement that the length of a TLV that includes other TLVs MUST include the padding in those encapsulated TLVs
    - Fuller specification of Port UP/DOWN and Port Management message fields and procedures
    - Added description of Command TLV contents to justify Command Code registry

Capabilities and Technology Types

- The issue: some capabilities are technology-specific (e.g. DSL line testing), some are not (e.g. multicast).

- Tech Type field is separate from capability fields

- Means capabilities have to be presented in groups, each for a specific technology type

 Current arrangement means same capability codepoint could be used for multiple Tech Types (contrary to -10 text)

Capabilities and Technology Types

- Alternatives:
    - Keep current arrangement. Need to modify adjacency message to carry multiple capability sets, one per supported Tech Type, plus one for "any".
    - Move Tech Type to be part of Capability Field.
    - Make Capability Type codepoints technology-specific (as they are in -10 version) and ignore the Tech Type field.

These alternatives are illustrated in the next three slides.

Current Capability Arrangement

Adjacency Message

. . .		
Tech Type = x	# Caps = 1	Total Length = 4
Cap Type = 3 (Transact Mcast)		Length = 0
Tech Type = 5	# Caps = 3	Total Length = 12
Cap Type = 1 (Topol discov)		Length = 0
Cap Type = 2 (Line config)		Length = 0
Cap Type = 4 (Line testing)		Length = 0

New message format and new behaviour

Capability Fields Include Tech Type

Adjacency Message

	▪ ▪ ▪	
Unused	# Caps = 4	Total Length = 16
Cap Type = 3	Tech Type = x	Length = 0
Cap Type = 1	Tech Type = 5	Length = 0
Cap Type = 2	Tech Type = 5	Length = 0
Cap Type = 4	Tech Type = 5	Length = 0
Cap Type = 1	Tech Type = 1	Length = 0

New message format, new behaviour.

Technology-Specific Capabilities

Adjacency Message

	. . .	
Unused	# Caps = 4	Total Length = 16
Cap Type = 3 (Transact Mcast)		Length = 0
Cap Type = 1 (DSL topol discov)		Length = 0
Cap Type = 2 (DSL line config)		Length = 0
Cap Type = 4 (DSL line testing)		Length = 0
Cap Type = 9 (PON topol discov)		Length = 0

Existing message format, minimal new behaviour.

Version Registry

- The issue:

  - -09 document had separate Version and Sub-version registries. Sub-version not meaningful once version advances to 4.

- Resolution:

  - Combine registries. Register version 3.1 (pre-standard) and version 3.2 (ANCPv1).

Unspecified Tech Type Codepoints

- The issue: -09 specified the following undocumented Tech Type codepoints for the IANA registry:

  - 0x00   Extension block not in use

  - 0x06-0xFE   Reserved

  - 0xFF   Base specification use

- Suggested alternative (requires changes to -10)

  - 0x00   Not technology specific

  - 0x02-0x04, 0x06-0xFE   Unassigned

  - 0xFF   Reserved

Underspecified VLAN Tag Field

- The issue:
  - Access-Aggregation-Circuit-ID-Binary holds two 12 bit VLAN identifiers in two 32-bit words
  - Do the 12 bits go into the least or most significant bits?
  - What goes into the rest of the word?
  - Which word holds the outer VLAN tag, which the inner?

GSMPv3 vs. ANCP Registries

- Issue:
  - Can ANCP modify GSMPv3 registries, not just by adding codepoints, but by specifying new limits?
  - Alternatives were described on the list, for the IESG to chew over
    - deprecate GSMP, make ANCP document independent of RFC 3292, take over GSMP registries
    - share registries with notes
    - parallel ANCP and GSMP registries
  - -10 currently uses the approach of shared registries with notes

Registry For X-Function?

- Issue:
  - Registry set up for Function
  - X-Function values and meaning supposedly dependent on Function (no non-zero values defined yet)
  - No registry defined for X-Function
- Proposal:
  - Define X-Function registry as sub-registry of Function (i.e. these are the values for this value of Function and here is what they mean)

UTF-8 For Text Fields

- Issue:
  - A number of text fields are defined, specified as ASCII
  - Could easily generalize to UTF-8
  - Not clear there is a requirement

- Proposal:
  - Do specify UTF-8
  - Default is US-ASCII
  - charset parameter in Provisioning message would identify non-default character set