Status update – Intent Drafts
draft-clemm-nmrg-dist-intent-01

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with input from many others:

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What was this about, again?

- "Intent-Defined Networking" is one of the recent industry buzzwords
  - Basic idea: Define what you want, not how to do it
  - This sounds good, but is this idea really new? (rhetorical question)
    - Policy-based management: Define high-level policies, leave it to policy renderers to do the rest
    - Service models and service provisioning:
      Define services & leave mapping of the service to low-level configurations, resource allocations, and objects to a flow-through provisioning system
    - Information hierarchies and abstractions are known concepts and common practice for service providers today (e.g. TMForum eTOM / Business Process Model, ITU-T TMN reference model (management layers + FCAPS)
- So, what is intent, really?
  - How does it differ from what came before?
  - Is Intent a reincarnation of policy? Of service models? Is intent synonymous, or different?
    Why all those terms and how do they relate?
  - If it is different: how so? What are the implications?

Status update

- Planned as one in a suite of eventually three drafts:

  (1) Terminology – Definitions and Concepts: Intent vs policy vs service models, etc
  This draft

  (2) Intent definition – Expressing Intent (*draft TBD)*

  - - Human – Machine interface aspects

  - - Relationship to data models – can you use YANG?

  - - Layer interdependencies

  (3) Basic intent architecture and framework/reference architecture
  draft-moulchan-nmrg-network-intent-concepts

  - How to render intent; how to validate network behaves "as intended"

- Work has been in a holding pattern: (1) needs updating, (3) has been abandoned

  - - Chance to refactor

  - - New co-authors interested in joining: Jeff Tantsura, others (e.g. Will Liu?)

Planned refactoring (one or more drafts)

- Establish clear terminology and taxonomy
  - Including intent "layers" e.g. operational intent (by an operator) vs flow intent (for a given communication instance)
  - Clarify distinction from "policy" (this is not intended as another policy effort)
- Establish requirements for Intent-Based Management and Functions, e.g.
  - Intent Fulfillment / orchestration: express "Network Intent" and map it into network configuration
  - Intent Compliance and validation: assess whether network configuration is consistent with intent, "measure" degree of intent compliance
  - Intent Assurance: assess impact of faults and ongoing changes etc for their impact on intent, determine actions needed to bring network into compliance with intent
- Outline intent architectures (possibly separate effort / draft)
- Identify areas that are candidates for standardization
- Outline opportunities and open questions for research

Next steps

- Revise new draft (possibly with new / additional authors) prior to June F2F interim

- Discuss at F2F interim in June

- Request adoption as NMRG work item to have nmrg-adopted draft in IETF 105 Montreal

Thank you!