Does the World Still Need Generic Management Protocols?

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◆ **In the past I have done work on OSI System Management and CORBA**

- ● **Built the OSIMIS open source OSI-SM platform**

- ● **Contributed to the TMF IIMC specs on OSI-SM and SNMP coexistence and built a generic CMIS/P to SNMP adaptor**

- ● **Contributed to TMF JIDM specs on CORBA and OSI-SM/ SNMP coexistence and built a generic CORBA to CMIS/P adaptor**

◆ **Current networking, network management and service engineering research activities**

- ● **Tend to use whatever technology is available/fashionable/ easy-to-use**

- ● **Have to deal with a plethora of relevant technologies (SNMP, CORBA, Netconf, Web Services) ☹**

◆ **SNMPv1 in the early 1990's as a simple interim solution**

- Was supposed to be replaced by CMOT (CMIS/P Over TCP)

◆ **Problems, some fixed in SMIv2, some other in SNMPv2/v3 but still a flawed approach**

- Information model too simple, lacks expressiveness
- Not good for intrusive management (i.e. configuration), mostly used for monitoring

◆ **COPS-PR tried to address the configuration problem but got nowhere – flawed approach to start with**

◆ **Netconf is finally fixing the configuration problem**

◆ **SNMP not to be developed any further**

Other Technologies

◆ **TL1 – used for SONET/SDH etc.**

◆ **Cisco's CLI, Juniper's Junoscript for IP routers**

◆ **Syslog for event management**

◆ **OSI-SM (CMIS/P-GDMO) – still used in TMN**

◆ **CORBA – a general distributed object technology, used also for network management**

◆ **Other distributed object technologies (RMI, …)**

◆ **Lightweight Directory Protocol/Services (LDAP)**

◆ **Many papers/panels in NOMS/IM/DSOM over the years**

- ◆ **Do we need a single standard protocol to cover the full FCAPS?**
  - ● **Would be good, let's dream on… ☺**
  - ● **Or have we already got one?**
- ◆ **Do we need different protocols for different market segments?**
  - ● **But this what is happening and will continue to happen**
- ◆ **Should and can XML/WS be used to replace existing protocols?**
  - ● **It might in principle, but don't hold your breath ☺**
- ◆ **Do we need an information model? Or should it be left out of the equation?**
  - ● **Of course we do, if not, forget interoperability**
- ◆ **What direction will standardization efforts need to take?**
  - ● **Continue to fill gaps as they arise e.g. Netconf**
  - ● **In parallel try for that elusive one-size-fits-all solution ☺**

- ◆ **What would be the benefits of a generic management protocol?**
  - **Homogeneity, commonality, universality**
  - **Power, at least as much as the "common existing one"** ☺
- ◆ **Does the lack of a common protocol result in lack of tools?**
  - **It rather results in a multitude of <u>different</u> tools** ☹
- ◆ **Do we know the requirements? What about Web Services?**
  - **See above. WS could be a possible *platform* for a solution.**
  - **But then what's round the corner (ok, a bit further) to replace WS?** ☺
- ◆ **Why this would succeed? Should we be asking this question?**
  - **Commonality, universality?**
  - **Of course yes, will keep researchers in business** ☺ ☺ ☺
- ◆ **One size fits all solutions have largely failed…**
  - **But not always, look at the *waste-of-the-hourglass* IP**
  - **"It's good, if you can get it…"**