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) 😞
How Did We Get Here?

◆ 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
Questions and My Answers (1/2)

◆ 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 😊
Questions and My Answers (2/2)

◆ 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 different 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…”