FM harmonization study

Objectives of the FM harmonization work for converged Networks

- The management of fixed and mobile networks is currently structured along silos with different management approaches. Operations departments of the service providers operate today in a quite independent manner. All this leads to high CAPEX and OPEX. Ever increasing cost pressure requires reducing OPEX (consistent handling of alarms) and CAPEX (less development cost, less integration cost).
- With the changing dynamics in the network deployments today, especially with LTE, there is need for interaction and alignment within all domains of the network. This also implies a consistent management of all elements in the network.
- One area that seems to be have a more “short term” and appropriate need is the Fault management interface which will ease the E2E trouble shooting, identifying and analysing network problems.
- Even for disparate Network Elements there is no reason why fault management interfaces should be different, One of the efforts under way is to achieve management of converged network is to align the Fault Management interface across.

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Objectives of the FM harmonization work for converged Networks

- 3GPP has developed and specified with the Alarm IRP an interface for Alarm Management.
- TMF has in MTOSI and OSSJ capabilities for Alarm Management as well. Currently TMF TIP studies how fault management can be aligned inside TMF.
- There is a study item defined in 3GPP for analysing the commonality and differences between the FM Interface defined in TMF and 3GPP . Additionally joint working groups have been formed and bi-weekly meetings are held to share information between the teams to align on a strategy for “way forward”.
- In addition to the comparison of the capabilities on the interface, the objective of the SI in SA5 is to also compare SA5 capabilities with the Wireline business requirements and identify the required adaptations in SA5 specifications.
- Operators in NGMN have also defined top 10 requirements and one of the top 10 is related to Alarm Management. Any extensions to SA5 specification needed to address those are also being actively looked at.

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3GPP documents related to Fault Management

- 3GPP is using the IRP concept for interface, NRM and data definitions specifications. 3GPP Fault management interface related specifications are the following:
  - -TS 32.111-1 Part 1: 3G fault management requirements
  - -TS 32.111-2 Part 2: Alarm Integration Reference Point (IRP): Information Service (IS)
  - -TS 32.111-6 Part 3: Alarm Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS) and Alarm IRP SOAP Solution Set (SS)
  - -TS 32.111-5 Part 5: Alarm Integration Reference Point (IRP): eXtensible Markup Language (XML) definitions

  Above mentioned specifications defines the requirements, semantics and syntax of the fault management interface and alarm content. Alarm IRP is utilizing the services defined in 32.30x Notification Integration Reference Point (IRP) and inheriting object definitions from 32.31x Generic Integration Reference Point (IRP) management and 32.62x Generic network resources Integration Reference Point (IRP).

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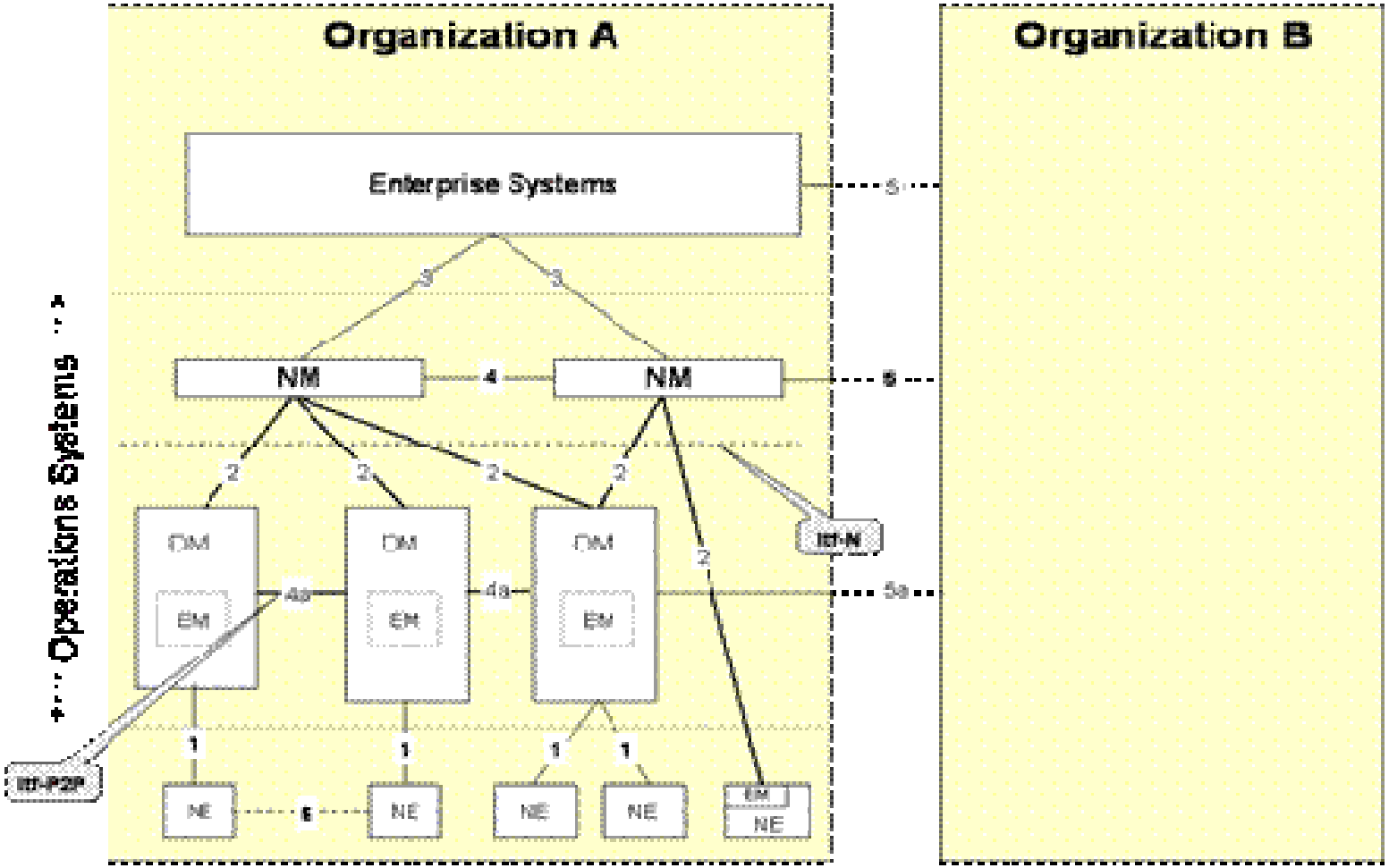
3GPP Management Refernce Architecture



3GPP specs specify OA&M interfaces between Element Management System (EMS) and Network Element System (NMS). In this Management Reference Architecture, this interface is known as the Itf-N Interface.

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Alarm IRP – Capabilities

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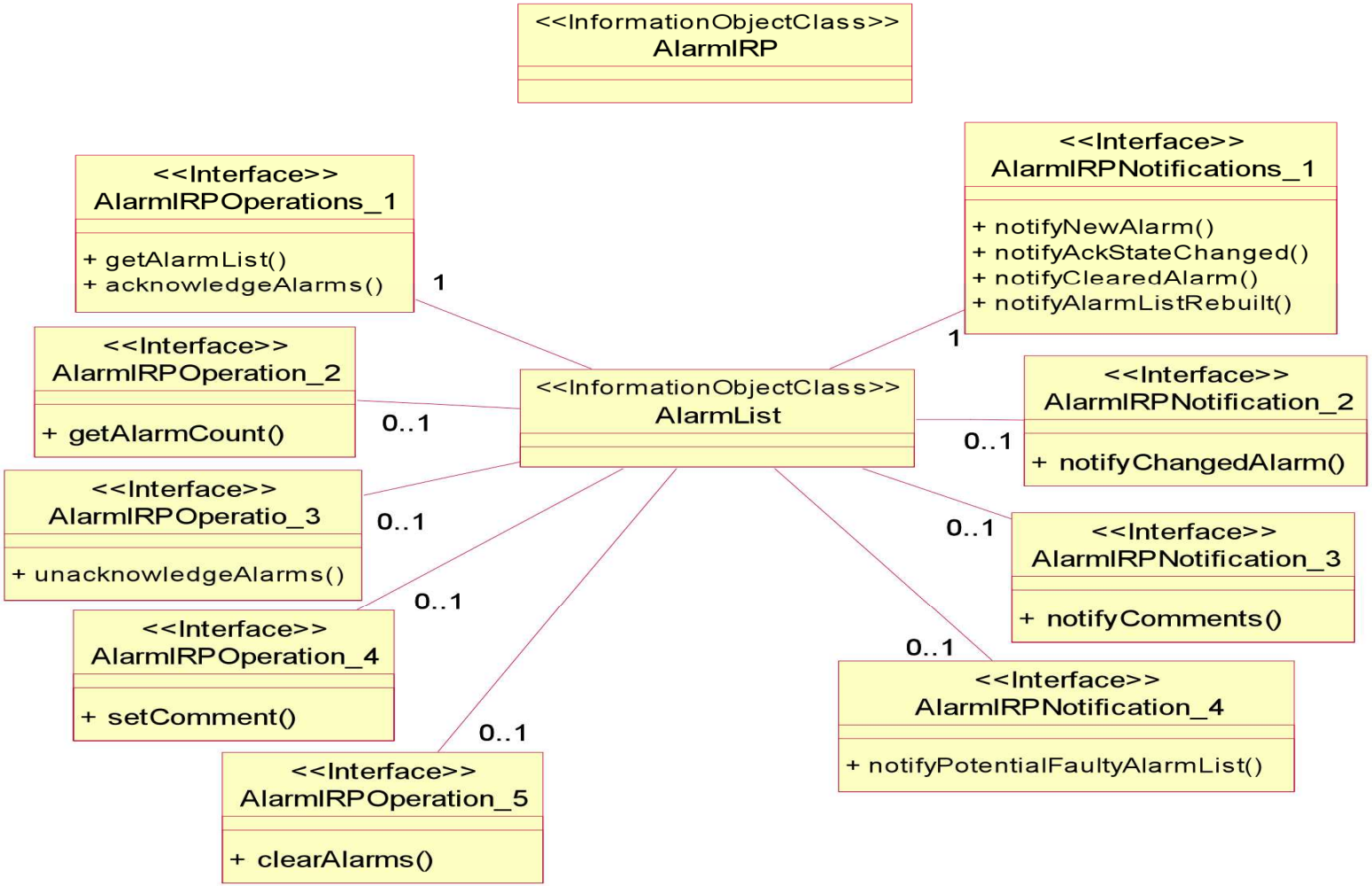
Alarm IRP – Capabilities



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TMF TIP Resource Trouble Management

- Currently TIP ecosystem has two set of specifications:
  - -OSS/J Fault Management API (JSR 263)
  - -MTOSI Resource Trouble Management (TMF518_RTM) and the similar requirements in TMF 513 (basically the MTNM requirements on FM
- TMF TIP is harmonizing their fault management specifications. The goal is to have one common TIP FM specification.
- MTOSI RTM specification consist of a Document Delivery Package (DDP) containing:
  - -TMF518_RTM Resource Trouble, Business Agreement (BA)
  - -RTM TMF612_RTM Resource Trouble, Information Agreement (IA)
  - -RTM TMF864_RTM_XML Resource Trouble, Interface Implementation Specification (IIS)

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Progress of the FM harmonization work for converged Networks

- A simple example of looking through the business requirements and providing enhancements to 3GPP specs :

_TMF_RAM_BA_I_0016	**Comments** The alarm can include comments. Information identifying the user entering the comment, the system from which the comment is entered and the time of the action shall be part of the comment.
3GPP support	Compliant. setCommentand getAlarmlist provides this information, but notifyComments does not provide the user id.
Recommended 3GPP updates	Add user id to notifyComments

- The details of the analysis performed so far is available at http://www.3gpp.org/ftp/Specs/html-info/32829.htm

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– BACKUP

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3GPP Specifications & Contributions … Where?

3GPP SA5 specifications:

- http://www.3gpp.org/ftp/Specs/html-info/TSG-WG--S5.htm
- http://www.3gpp.org/ftp/Specs/latest/Rel-9/32_series/
- http://www.3gpp.org/ftp/tsg_sa/WG5_TM/Draft_Specs/

3GPP SA5 contributions:

- http://www.3gpp.org/ftp/tsg_sa/WG5_TM/

3GPP SA5 email lists:

- http://www.3gpp.org/email-lists
- http://list.etsi.org/
- http://list.etsi.org/3gpp_tsg_sa_wg5.html
- http://list.etsi.org/3gpp_tsg_sa_wg5_oam.html

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