

1 **TITLE:**

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2 ***Proposal for 3GPP2 Stage 2 & 3 OAM&P***

3 **SOURCE:**

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9 **ABSTRACT:**

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10 This contribution presents a proposal for 3GPP2 Stage 2 & 3 OAM&P.

11 **RECOMMENDATION:**

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12 The purpose of this document is to present and discuss common OAM&P goals, objectives  
13 and liaison issues between 3GPP SA WG5 and 3GPP2 TSG-S in the scope of 3G Stage 2 &  
14 3 OAM&P.

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Notice

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# **3GPP2 OAM&P Stage 2/3 Proposal**

***Source: Motorola & Ericsson***

## Status

- **No current OAM&P activity in 3GPP2**
  - “3G Wireless Network Management System High Level Requirements - Baseline Text (Stage 1)” completed
  - TSG-S Terms of Reference does not address Stage 2/3
- **TR45.7 has not started work on 3GPP2 OAM&P Stage 2/3**
  - Quote: *“TR-45.7 has not failed to deliver a Stage 2 document to 3GPP2 nor any of its sub organizations. TR-45.7 has neither a project number for nor even informally begun work on such a Stage 2 document. It has recently completed a Stage 2 document based on CTIA requirements, which is being balloted as a 3G wireless management standard IS-813.”*
- **OAM&P is actively worked upon in 3GPP**
  - Dedicated work group
  - Strong operator and supplier support encompassing Asian, American and European participation

## Proposed way Forward

- **The analogy is SIM card in ETSI and the request for R-UIM support in 3GPP2. There were no previous 3GPP2 R-UIM specification:**
  - CDMA and TDMA were incorporating delta specifics to the specification which was controlled by SMG9
  - Using this approach, support of R-UIM in cdma2000 was developed very expeditious
- **We propose the same procedure for cdma2000 OAM&P**
  - Reference the 3GPP specifications
  - Develop 3GPP2 specific delta document when needed (e.g. access and legacy specific issues)

## Objectives

- **Business-driven top-down Approach (TMF-based).**
- **Network Technology Agnostic.**
- **Immediate Focus is Interface between Element Manager and Network Management System.**
- **Protocol Independent Information Model (IRP concept).**
- **Support of multiple Interface Technologies (Solution Sets).**

## Goals

- **Quickly develop standardized OAM&P support for 3GPP2 by re-use (by reference) of existing and future 3GPP OAM&P standards.**
- **Effective use of scarce resources.**
  - Avoid duplication of standards (and related maintenance activities).
  - Sharing of specifications and meeting reports for review.
  - Liaison contact definition.
  - Dedicated Annexes for 3GPP2 specific extension of specifications.
- **Improved end products and support.**
- **3GPP2 contributions to 3GPP specifications and vice-versa (Common member companies to drive).**

## Common Interests and Work Items

- **Support for and further development of the IRP concept.**
  - IRP extensions .
  - Development of Solution Set's .
- **Information Model Definition.**
  - All-IP Network Model .
  - CDMA-based Access Technology .
  - Support for UMTS & CDMA 2000 .
- **Joint liaisons with other SDO's.**
  - TMF, DMTF, IETF.

## 3GPP Release 99 OAM&P Status

- Completed Specifications
  - Principles(32.101),
  - Architecture(32.102)
  - Performance Management (32.104)
  
- Specifications to be finalized June 2000
  - Configuration Management (32.106)
    - *Notification IRP (generic for FCAPS)*
    - *Basic CM IRP (Inventory & Topology IRP)*
    - *Naming Convention*
  - Fault Management (32.111)
    - *Alarm IRP (Corba & CMIS Solution Set)*

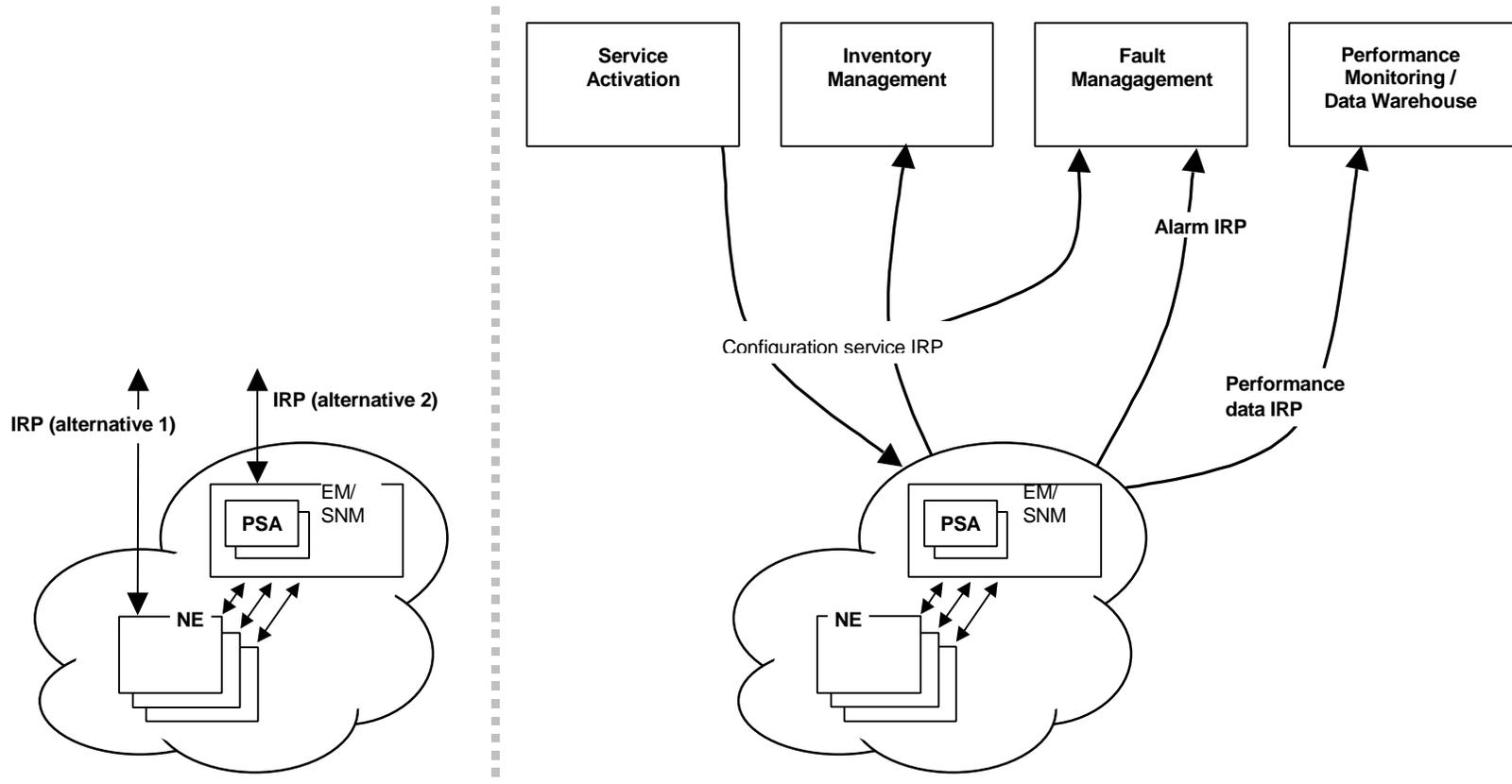
## 3GPP Release 00 OAM&P Plans

- Performance Management :
  - XML,
  - File Format Enhancements,
  - Plug & Measure, Measurement Definitions,
  - PM Monitoring.
- Fault Management:
  - CMIP & SNMP Alarm Solution Sets,
  - Test Management.
- Configuration Management:
  - CMIP & SNMP Notification Solution Set,
  - Basic CM Information Service and Resource Model,
  - CORBA, CMIP, WBEM & SNMP Basic CM Solution Sets,
  - Naming Convention Updates,
  - Resource Model Updates.

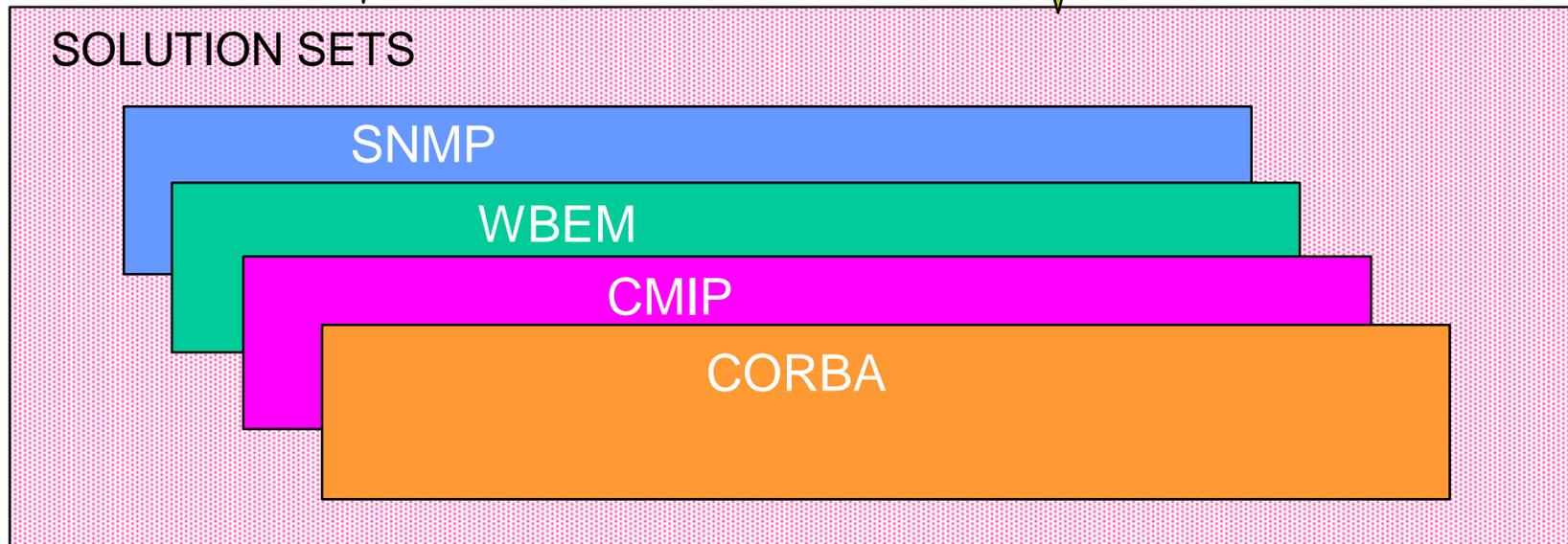
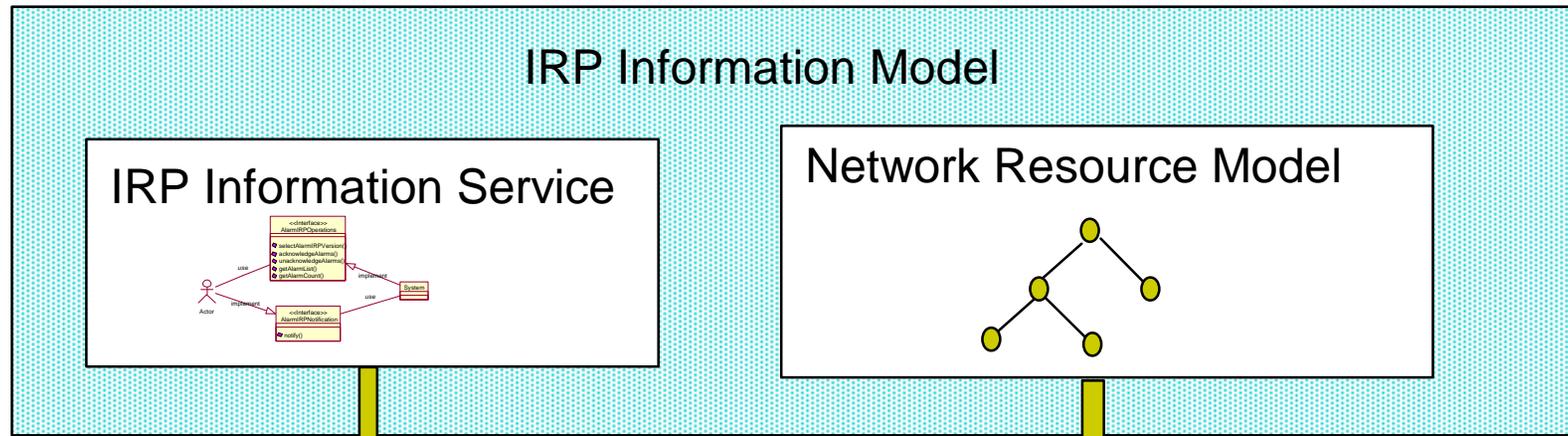


# IRP Background Slides

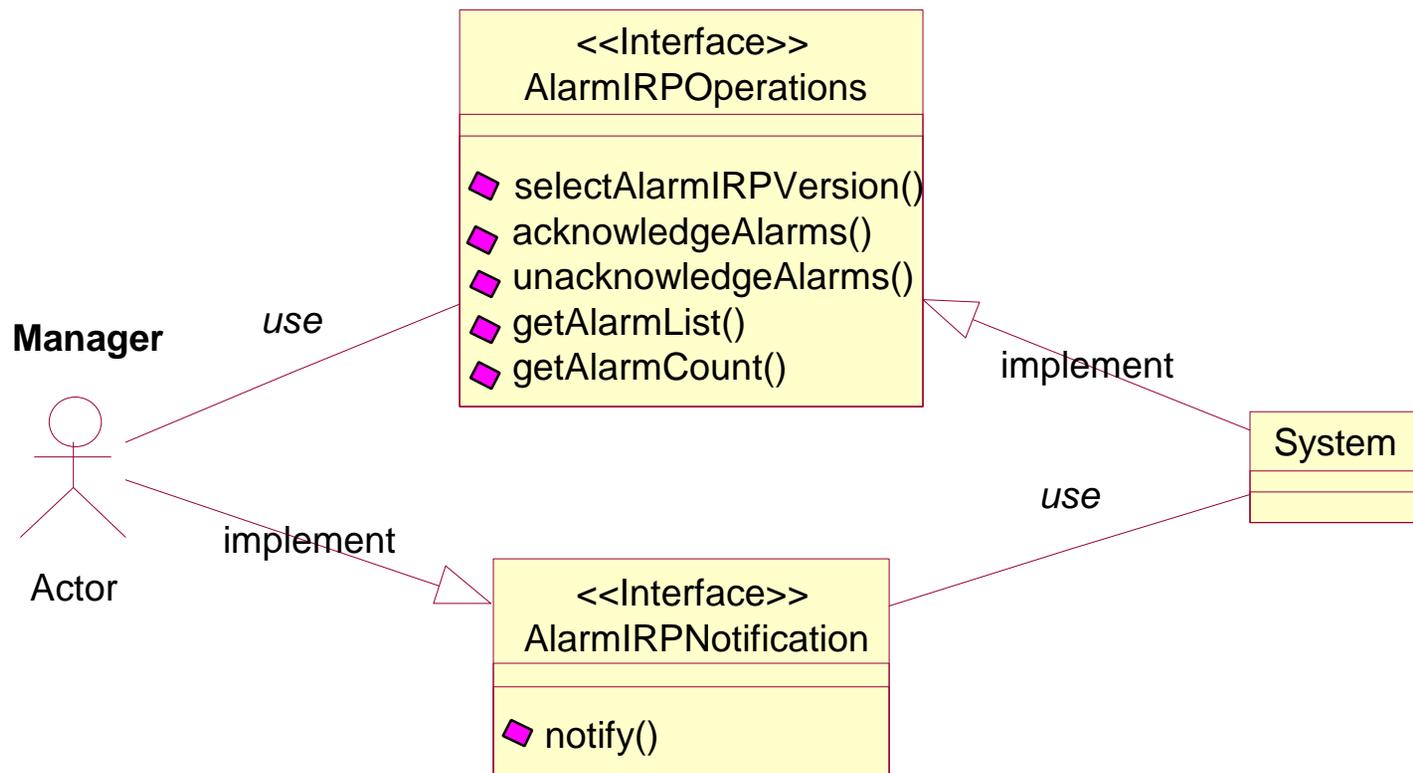
# IRP - Integration Reference Point



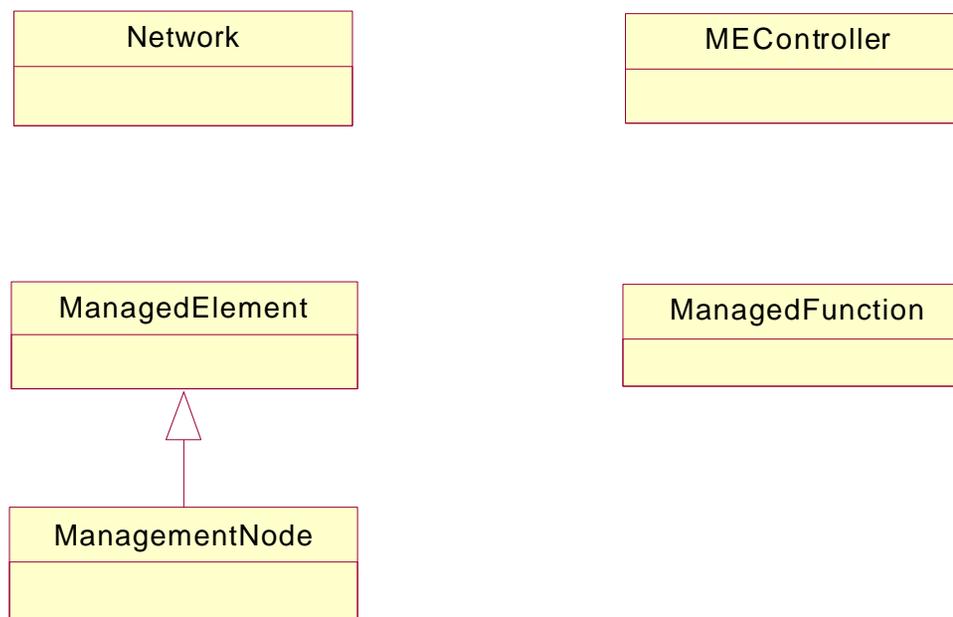
# IRP - Integration Reference Point Components



## Alarm IRP Information Service



## CM IRP Resource Model Example



## Alarm IRP CORBA Solution Set Extract

```
/* ## Operation: get_alarm_list
## Documentation:
Actor requests System to provide a list of alarms in
Alarm List. This operation is mandatory.

Parameters:
(in) alarmAckState: It has 4 values indicating a) active &
acknowledged b) active & unacknowledged c) cleared
& unacknowledged and d) all of the above. If present
and non-null, System shall use it to apply on Alarm
Information in Alarm List when constructing its output
parameter AlarmInformationList. If input parameter filter
is also present, the filter constraint carried in filter shall
also be applied as well.
(in) filter: It specifies the filter constraint that System shall
use to apply on alarms in Alarm List. System shall return
Alarm Information(s) that satisfy the filter constraint.
The filter constraint shall be based on Alarm Information
attribute names and values. System shall apply this filter
instance for this invocation only. An absent parameter
or null parameter implies that no filter constraint shall be
applied.
(out) alarmInformationList: It carries Alarm Information(s)
in Alarm List.

Returned status: (a) Operation succeeded in that
alarmInformationList contains the required Alarm
Information(s).
(b) Operation failed because of specified or unspecified
reason.

*/

ConstDefs::Signal get_alarm_list (
    out AlarmConstDefs::AlarmInformationSeq alarmInformationList,
    in AlarmConstDefs::AlarmAckState alarmAckState,
    in string filter
)
raises
(GetAlarmListException, InvalidFilterConstraintsException, Filter@ammarNotSupportedException, FilteringNotSupportedException, SystemBusyException);
```

## Alarm IRP CMIP Solution Set Extract

### 1.1.1 getAlarmList (M)

getAlarmList **ACTION**

**BEHAVIOUR**

getAlarmListBehaviour;

**MODE**

CONFIRMED;

**WITH INFORMATION SYNTAX**

CMIP\_3GPP\_SA5TypeModule.GetAlarmList;

**WITH REPLY SYNTAX**

CMIP\_3GPP\_SA5TypeModule.GetAlarmListReply;

**REGISTERED AS** {cmip3GPP\_SA5Action 3};

getAlarmListBehaviour **BEHAVIOUR**

**DEFINED AS**

"This action starts an alarm alignment procedure between a NM and Agent, which takes into account also the acknowledgment state of the alarms.

The 'Action information' field contains the following data:

? *subscriptionId*

This optional parameter identifies unambiguously the Manager invoking the current operation and is used for the correlation between the action request and the Agent's answer (see also the related chapter in 'Introduction').

? *alarmAckState*

Depending on this optional parameter value, the NM gets the alarm reports according to the following possible choices:

- all alarms
- all active alarms (acknowledged or not yet acknowledged)
- all active and acknowledged alarms
- all active and unacknowledged alarms
- all cleared and unacknowledged alarms.