

CrossTalk™ XML Lookup Plug-in

Alarms Mapping Through External Information Lookups

- ◆ Extends the base capabilities of the CrossTalk™ Alarm Mediation Services and Alarm Application Services products
- ◆ Allows event and alarm object mapping rules to access externally generated data required to be used in the mapping process
- ◆ Dynamically re-loadable external data is produced to a simple generic XML based specification
- ◆ Standard mapping rule syntax is used to extract data "keys" from alarm attributes which are then used to access lookup data nested within the XML data structure

Overview

The CrossTalk™ XML Lookup Plug-In for Alarm Mediation Services (TeMIP events) and Application Services (Alarm Objects) empowers users to extend alarm mapping capabilities to facilitate the inclusion of externally generated data into the mapping process. The simple XML data format for external data presentation enables users to build anything from simple one-dimensional lookup data lists to multi-keyed tree-structured data constructs.

External Data

External user data is produced to a simple XML format which allows data to be expressed as nested lookup tables. The CrossTalk™ Alarm Mediation and Application Services provide self-management directives for recording and managing user defined external Datafiles used in system-wide loaded mapping rules. The plug-in support facilities available are:

- ◆ External data file parsing
- ◆ Syntax error reporting
- ◆ "Compilation" of external data files to improve efficiency of loading and access
- ◆ Dynamic data reload control after data modification

Lookup Keys

Each level of data is accessed by a user supplied key via the CALL function. The number

of keys supplied to the function determines at what level in the data a lookup is attempted.

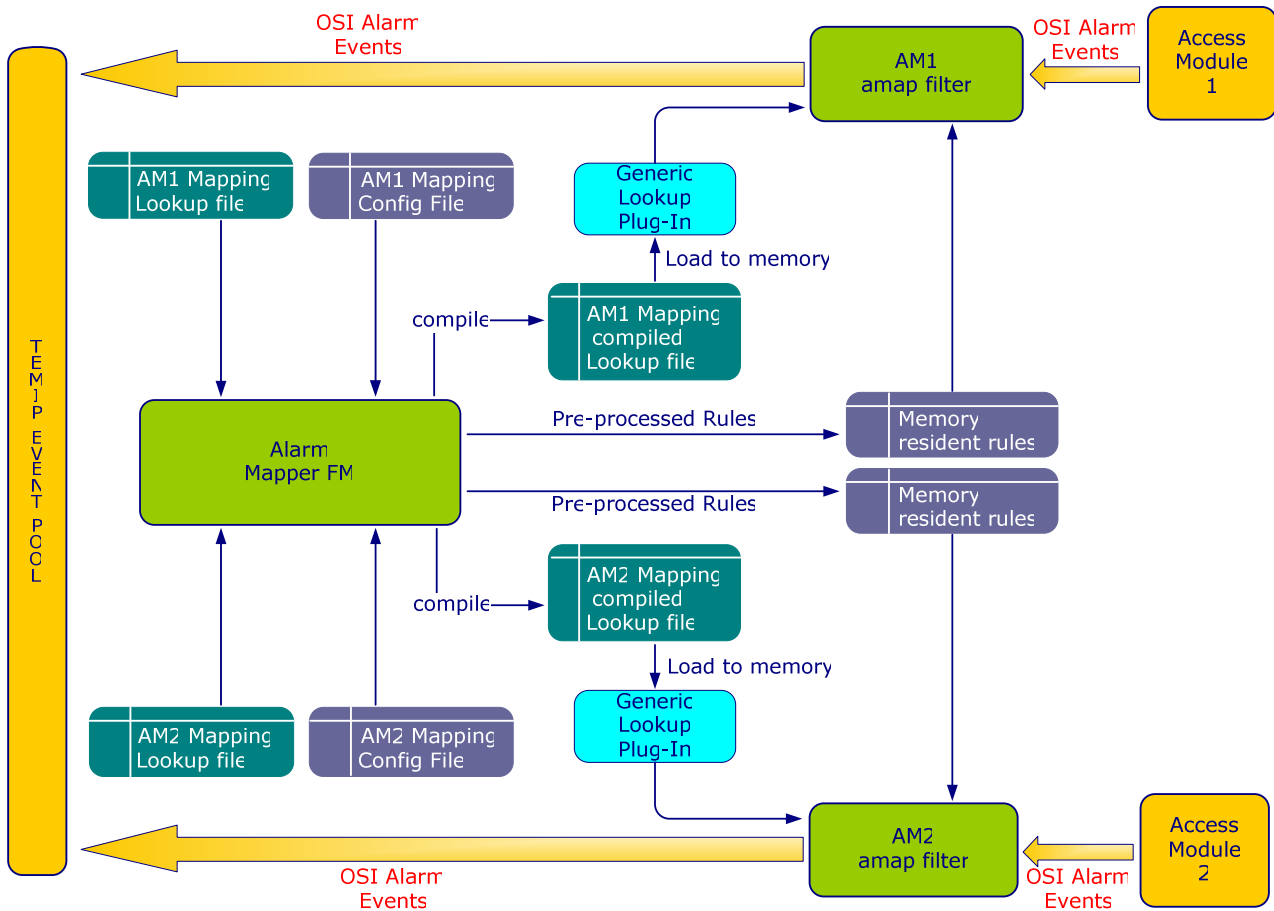
CALL Routines

AMAP_ValueLookup: Provides a variable key lookup facility on user specified external XML structured data. The routine uses each supplied key to navigate a nested XML structure. The first key supplied is used to find a data match at the first XML structure level, the second key to find a match at the second XML structure level within the previous matched level etc. If a match satisfying all supplied keys is obtained the routine returns the "response" data specified in the XML structure at the final key level. A variant of this call (AMAP_DefaultLookup) may be used to return a defined default value in the event of lookup failure.

AMAP_IsPresentLookup: This routine operates similarly to AMAP_ValueLookup in terms of key usage and XML structure navigation. It differs in that no specific lookup data is returned by the routine. Two extra parameters are passed in the CALL; one represents a specified return value in the event of key match success and one represents a specified return value in the event of lookup failure.

Key values and return data values can be hardcoded textual strings, textual variables, or supported mapping rule variables, e.g. Managed_Object, Severity, etc.

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Key Features:

- ◆ User specified and generated External Lookup Data access via mapping rules
- ◆ Multiple level lookup to nested data
- ◆ Multi-mode lookup including "time range" external lookup data support
- ◆ Lookup data integrity checks and failure reports via internal parser
- ◆ Dynamic reloading of External Lookup Data

Example Applications:

- ◆ Lookup equipment not in service and tag alarm data for Tap filtering
- ◆ Obtain SNMP managed equipment interface descriptions for inclusion in additional text

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