XML Reference

This chapter provides information about the XML elements and tags used in Prime Performance Manager reports. Topics include:

XML Elements

The following topics describe the XML elements used in Prime Performance Manager reports:

- WebReport, page A-5

AggregatedDBSummary

The AggregatedDBSummary tag is used for the Aggregating the values available in the ProcessDBSummary. These are mainly used for the group reports.

Bytes

The Bytes tag can be used to display the values in B/KB/MB/GB format in the Table and Graph view. They are mainly used for the size related parameters.

Column

The Column element is contained in a CSV, Graph view, and Table view section and specifies the heading and table column for a column shown in the CSV report.

Criteria

The Criteria element specifies the MIB capabilities used in the report, as defined in the *SystemCapability.xml* file and the *UserCapability.xml* file.

You can use the Criteria element within the Poll element and within the WebReport element.

CSV

The CSV element contains elements and attributes that specify the format and content of the CSV report that is saved to a file when a user chooses the CSV report format.

The CSV element contains the following elements:

- Column
- Bits
- Bytes
- Util
- IpAddr
- Time

Filter

The Filter tag can be used inside the WebReports to filter out a particular key value and display that specific reports alone.

DecimalPrecision

Sets the decimal precision in Graph and Table views. For example, decimalPrecision =3 will set the decimal value as 3, for example, 1500.231 and 12.369. The level of decimal precision displayed in Prime Performance Manager reports is the greater value specified by the decimalPrecision element or by the user in User Preferences.

Graph and Table view section examples:

<GraphView>

```
       <GraphSummary title="vpnErrorPercentage" />
       <Graph title="vpnAvgSendErrorPercentage">
          <Util name="sendErrorPercentage" decimalPrecision = "3">txErrorPercent</Util>
       </Graph>
       <Graph title="vpnAvgRecvErrorPercentage">
          <Util name="recvErrorPercentage"  decimalPrecision = "3">rxErrorPercent</Util>
       </Graph>
       <LeafGraph title="vpnAvgSendRecvErrorPercentage">
          <Util name="vpnAvgSendErrorPercentage" decimalPrecision =
"3">txErrorPercent</Util>
          <Util name="vpnAvgRecvErrorPercentage"  decimalPrecision =
"3">rxErrorPercent</Util>
       </LeafGraph>
    </GraphView>

    <TableView baseTable="L3VPN">
      <IdLabel/>
      <Label colSpan="1" name=""/>
      <Label colSpan="3" name="send"/>
      <Label colSpan="3" name="receive"/>
      <HeaderRow/>
      <Link name="node"      context="Node">fqdnid</Link>
      <Link name="vrfName"   context="vrfName">vrfName</Link>
      <Link name="interface" context="l3vpnIfDescr">l3vpnIfDescr</Link>
      <Time/>
      <Column                name="type">ifType.mibEnum()</Column>
      <Column                name="goodPackets"                  decimalPrecision =
"3">txTotPkts</Column>
      <Column               name="errors"                              decimalPrecision
= "3">txErrors</Column>
      <Util   default="true" name="errorPercentage" decimalPrecision =
"3">txErrorPercent</Util>
      <Column                name="goodPackets"                  decimalPrecision =
"3">rxTotPkts</Column>
      <Column               name="errors"                              decimalPrecision
= "3">rxErrors</Column>
      <Util                       name="errorPercentage"            decimalPrecision =
"3">rxErrorPercent</Util>
    </TableView>
```

graphsPerRow

The graphsPerRow attribute is defined inside the Graph view tag for the number of graphs to be displayed in the row. These are mainly used in the Dashboard reports.

graphsToMerge

The graphsToMerge attribute is defined inside the GraphView tag for the number of graphs to merge and display. It is mainly used for Dashboard reports.

GraphView

Specifies the graphs and subgraphs used in the graph view for a report. Contains the following elements:

- Column
- Graph
- GraphSummary
- LeafGraph

IpAddr

Specifies an IP address. Used in the Column element.

IdLabel

Used in the Column element.

LeafGraph

Specifies the attributes of a LeafGraph, which is a graph that shows multiple values. Used in the GraphView element.

Link

Specifies a link. Used in the TableView section.

PollDefinition

The PollDefinition section specifies what MIB variables are polled for the report, and can call reports macros used to filter polling.

PollerList

The PollerList element is the main element in the report.xml file. It encapsulates all of the other elements.

Poll

The Poll element specifies the following key report elements:

- Criteria
- PollDefinition
- ProcessPollResult
- ProcessDBSummary

ProcessDBSummary

The ProcessDBSummary contains code that builds the virtual table used to hold report data in memory. At the end of each defined reporting period, the table data is written to the physical database on the gateway.

ProcessPollResult

The ProcessPollResult section contains code that specifies how MIB data is processed.

TableView

The TableView element specifies the contents and text used in the Table report view. The TableView element contains the following elements:

- Column
- Label
- Link
- Util
- Byte

Util

Specifies a utility that calculates a value, such as an average. Used in the GraphView or TableView element.

WebReport

The WebReport element specifies the elements and text strings used in a Graph view of the report as well as the Table view. The WebReport section contains GraphView and TableView.

XML Tags

Table A-1 shows the XML tags used in Prime Performance Manager reports. Most tags specify the default behavior within a report. These values override the preferences set in the Prime Performance Manager User Preferences window unless the user enables the Override Report Definitions option. For information about user preferences, see "Setting User Preferences" in the *Cisco Prime Performance Manager 1.7 User Guide*.

Table A-1 XML Tags

Tag	Description

colNameGraphPrefix	Is contained in a TableView section. If colNameGraphPrefix=true, column values are added to graph titles such as Slot 1 CPU 2. If set to false (default), the graph title would be 1 | 2. This tag is useful for index integers that require descriptors to be useful in graph titles, for example, in IPSLA, CPU, memory, and other reports. Example:
	`<TableView baseTable="IPSLA_JITTER">`
	`<IdLabel/>`
	`<Label colSpan="1" name="responseTime" />`
	`<Label colSpan="1" name="jitter" />`
	`<Label colSpan="1" name="packetLoss" />`
	`<Label colSpan="1" name="reachability" />`
	
	`<HeaderRow/>`
	`<Link name="node" context="Node">fqdnid</Link>`
	`<Link name="target" context="TargetAddress" colNameGraphPrefix="true">TargetAddress</Link>`
	`<Link name="owner" context="IPSLAOwner" colNameGraphPrefix="true">IPSLAOwner</Link>`
	`<Link name="tag" context="IPSLATag" colNameGraphPrefix="true">IPSLATag</Link>`
	`<Link name="type" context="IPSLARTTType" hideSummary="true">IPSLARTTType</Link>`
	`<Link name="index" context="IPSLAIndex" colNameGraphPrefix="true">IPSLAIndex</Link>`
	`<Time/>`
	
	`<Column default="true" name="millisecs">ResponseTimeAvg</Column>`
	`<Column name="millisecs">(JitterPosSDAvg + JitterNegSDAvg + JitterPosDSAvg + JitterNegDSAvg) / 4</Column>`
	`<Util name="percentage">PacketLossOverallUtilAvg</Util>`
	`<Util name="percentage" tcaRising="false">TargetReachabilityUtilAvg</Util>`
	`</TableView>`

Table A-1 XML Tags (continued)

Tag	Description
CsvPoll	Specifies that values should be read from a file not through SNMP. Example: `ApnBearersStatsTable = CsvPoll("apn", "integer:auth-req-sent, integer:auth-acc-rcvd, integer:auth-timeout, integer:acc-req-sent, integer:acc-rsp-rcvd, integer:acc-req-timeout, integer:act-defbear, integer:act-dedbear, integer:setup-defbear, integer:setup-dedbear, integer:rel-defbear, integer:rel-dedbear, integer:rel-fail-defbear, integer:rel-fail-dedbear, integer:rej-defbear, integer:rej-dedbear, integer:mod-uebear, integer:mod-nwbear, integer:ue-init-modfail, integer:nw-init-modfail", "string:vpnname, integer:vpnid, string:apn");`
descending	Works the same way as tcaRising by indicating which metric direction is good or bad. It is used to sort and color values in tables. If descending="false" values are sorted in ascending order instead of descending. descending=”true” is the default for tables.
downColors	Is applied to metrics such as down percentage. The math is similar to the descending/availability user preference. Here, the value checked determines whether the displayed color is the value minus one, not the value directly. For example, if an interface is down more than one percent of the time it needs to be identified. However, the descending metrics cannot be used because it measures the down time not up time. This flag, if set to true, indicates colors should be displayed using the <value-1> formula.
hideAvg	If hideAvg=true, hides the average values in graph summary tables and legends, regardless of the user preference. If hideAvg=false, the user preference is followed. hideAvg goes on the Graph line. An example is shown in showTotal.
hideLegend	Can be added to report XML index columns to trim long, complex indexes in charts and graph subtitles, while displaying the index columns in summary tables. Some IPSLA and ClassMap reports are examples where not all MIB indexes need to be displayed because they rarely change or are index integers with little human value. Report components prefaced with hideLegend=true are not be displayed in graph legends. This tag applies to reports, dashboards, views, and StarGraphs. For an example, see hideSummary.
hideMax	If hideMax=true, hides the maximum values in graph summary tables and legends, regardless of the user preference. If hideMax=false, the user preference is followed. hideMax goes on the Graph line. An example is shown in showTotal.
hideMin	If hideMin=true, hides the minimum values in graph summary tables and legends, regardless of the user preference. If hideMin=false, the user preference is followed. hideMin goes on the Graph line. An example is shown in showTotal.

Table A-1 XML Tags (continued)

Tag	Description

hideSeries	hideSeries is used inside a LeafGraph so the LeafGraph appears with one data series as the primary display and the other data series is hidden. It is normally used with a KPI graph and contributing KPI counters. The KPI line is shown by default and the underlying counters are hidden. The user can click a counter data series and see which ones are contributing to the KPI and in which manner. hideSeries was designed for small cell KPI reports but can work for other KPI reports. It goes on the Column, Util or other lines inside a LeafGraph, not on the LeafGraph itself. Example:
	`<LeafGraph title="gstrmsApcsRabSetupSuccess" showLegend="true">`
	`<Util name="gencsRabSetupSuccess" descending="false" nocolor="true">`
	`csRABSetupSuccessPercentage</Util>`
	`<Column name="genrabSuccessCsVoice" hideSeries="true">rabSuccessCsVoice</Column>`
	`<Column name="genrabSuccessCsVideo" hideSeries="true">rabSuccessCsVideo</Column>`
	`<Column name="genrabAttemptsCsVoice" hideSeries="true">rabAttemptsCsVoice</Column>`
	`<Column name="genrabAttemptsCsVideo" hideSeries="true">rabAttemptsCsVideo</Column>`
	`</LeafGraph>`

hideSummary	Performs the same functions as hideLegend, but includes summary tables. hideSummary=true, hides the average values in summary tables and graph legends, regardless of the user preference. If hideSummary=false, the user preference is followed.
	hideLegend and hideSummary appear in the Link line. Example:
	`<Link name="index" context="IPSLAIndex" hideLegend="true" colNameGraphPrefix="true">IPSLAIndex</Link>`
	`<Link name="type" context="IPSLARTTType" hideSummary="true">IPSLARTTType</Link>`

LastFlapTime_UNIXFormat	Displays the report time in Unix or POSIX time. GUI report example:
	`<ProcessPollResult>`
	`lastFlapTime_UNIXFormat = ccsCmFlapLastFlapTime.dateAndTime("UNIX_FORMAT");`
	`</ProcessPollResult>`
	
	`<ProcessDBSummary baseTableName="CMTS_CM_State_HOT">`
	`<Var name="LastFlapTime_UNIXFormat" type="Long">lastFlapTime_UNIXFormat</Var>`
	`</ProcessDBSummary>`
	
	`<TableView baseTable="CMTS_CM_State_HOT">`
	`<Time name="LastFlapTime_UNIXFormat" key="true">LastFlapTime_UNIXFormat</Time>`
	`</TableView>`
	
	CSV report example:
	`<CSV name="CMTS_CM_State_HOT" location="gateway" listen="CMTS_CM_State_HOT">`
	`<Time name="LastFlapTime_UNIXFormat" key="true">LastFlapTime_UNIXFormat</Time>`
	`</CSV>`

Table A-1 XML Tags (continued)

Tag	Description
nocolor	Prime Performance Manager allows users to display utilization values in red, orange, and green, cooresponding to the utilization thresholds defined in User Preferences. This tag allows you to override that setting and always display the specified utilization value in black font and hide background colors in summary tables. If nocolor=true, ignore the user's red, green, and orange utlilization color preference and display the data in black font. Utilization xamples of values where this tag might be applied include: • Error Percentage • Discard Percentage • Buffer Miss Percentage
ReferenceLine	Added to the Graph section, allows you to add a user-defined SLA or other custom reference line to charts. Format example: <Graph> <ReferenceLine name="test" value="102" color="#FF0000" opacity="0.2"/> </Graph> Color defaults to #000000; opacity defaults to 0.5. Name and value are required. **Note** IE 8 does not support the opacity parameter.
showCurrent	If showCurrent=true, displays the current values in graph summary tables and legends, regardless of the user preference. If showCurrent=false, the user preference is followed. showCurrent goes on the Graph line. An example is shown in showTotal.
showLegend	If showLegend=true, displays legends in graphs, regardless of the user preference. If showLegend=false, the user preference is followed. showLegend goes on the LeafGraph line. An example is shown in hideSeries.
showMax	If showMax=true, displays the maximum values in graph summary tables and legends, regardless of the user preference. If showMax=false, the user preference is followed. showMax goes on the Graph line. An example is shown in showTotal.

showTotal	If showTotal=true, always displays total values in graph summary tables and legends, regardless of the user preference. If showTotal=false, the user preference is followed.
	hideMin, hideMax, showMax, hideAvg, showCurrent, showMax, showTotal all go on the Graph line. Examples:
	`<Graph title="gtCPUUtil1MinAvg" hideMin="false" showCurrent="true" showMax="true" hideAvg="false">`
	`<Graph title="gtCPUUserUtil" hideMax="true">`
	`<Graph title="gtCPUUtil1MinAvg" hideMin="false" showCurrent="true" showMax="true" hideAvg="false">`

tcaRising	For thresholdable fields, specifies whether the negative KPI value is rising or falling. For example, utilization going up and availability going down are negative. If tcaRising=true (default), the field KPI is rising. If tcaRising=false, the KPI is falling. You cannot use the tcaRising attribute for any LeafGraph fields. For more information on thresholdable fields, see Creating a Report with Thresholdable Fields, page 2-19.

Table A-1 XML Tags (continued)

Tag	Description

thresholdable	Specifies whether users can create thresholds for a data value. If thresholdable=true, users can create thresholds for it. If thresholdable=false, users cannot create thresholds.
	tcaRising and thresholdable both go on a Value field inside either a GraphView or TableView section. Examples:
	`<Util name="percentage" descending="false" tcaRising="false">TargetReachabilityUtilAvg</Util>`
	`<Column name="voltage" thresholdable="false">ciscoEnvMonVoltageStatusValue</Column>`

XmlPoll	Tells the XML poller to push polling through SSH/Telnet. Example: `bgpSummaryTable = XmlPoll("bgpStats", "bgpStats.bgpSummaryIos", "", "integer:tableVersion, integer:rpkiValid, integer:rpkiNotFound, integer:rpkiInvalid", "", false, "bgpIpv4SummaryTable");`
yAxisKey	Allows you to customize the Y-axis label name title for the graph report. If yAxisKey="RPM", it will display Y-axis title as RPM for that graph report. The **yAxixKey** title displays in the graph title, for example: `<Graph title="gtUDPOutDatagrams" yAxisKey="RPM">`