

Concert Netflow Mediator

Case Study



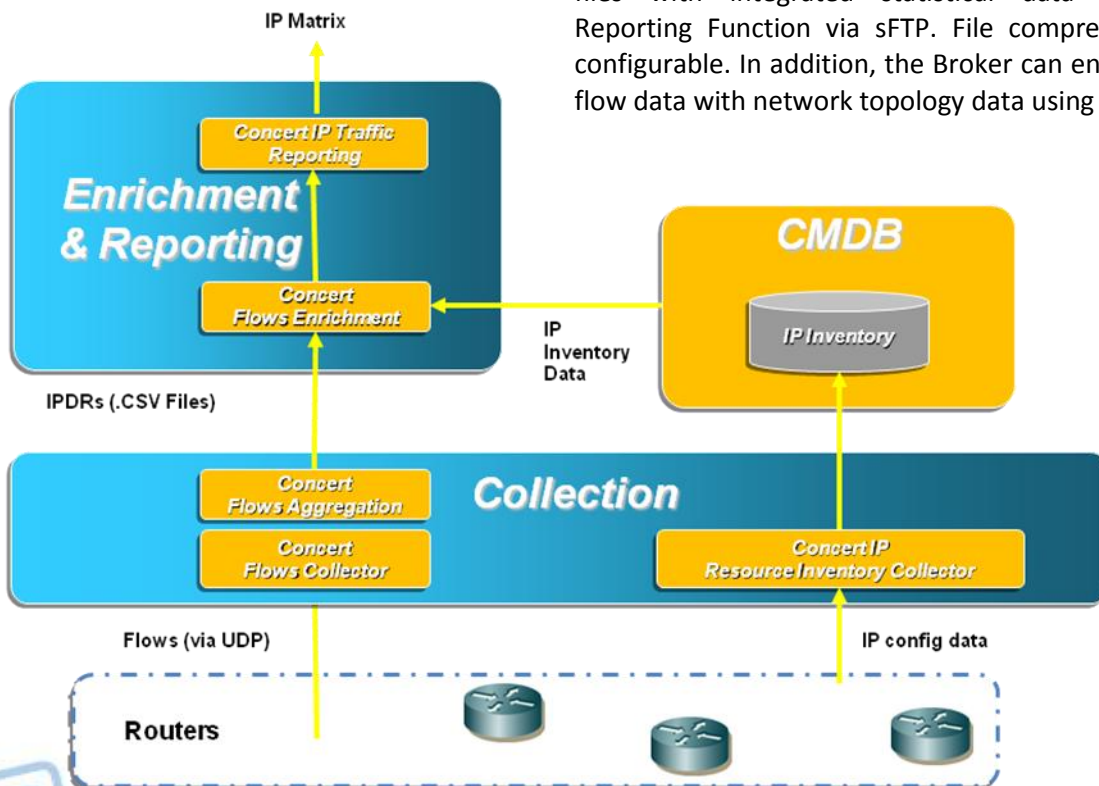
The Challenge- Correlate Alarms with Configuration Change

NetFlow technology has been attractive to service providers because of its ability to help network capacity planning and traffic analysis. NetFlow monitoring provides additional visibility into network capacity and utilization by collecting and analyzing existing NetFlow records from routers and switches. Deploying and using NetFlow in the ISP/Telco environment has presented many challenges, the most challenging has been the ability to collect the massive number of flows required to produce the business critical information that is available through NetFlow analysis. The amount of statistical data collected and analyzed in the ISP/Telco network is typically orders of magnitude larger than in a large enterprise network. The service provider in this case study wanted IP Traffic Reporting from their IP backbone network which can generate up to 72 million flow records per minute over 850 router interfaces.

The Solution- Concert Netflow Mediator

Dataduct's Concert Mediation platform is ideally suited to reducing the complexity of retrieving and aggregating the flow data from the network routers. Concert's distributed architecture provides a scalable, robust and cost-effective NetFlow analysis solution. In this solution, the 3-Layer architecture consisted of:

1. 6 Concert Point of Presence Router Data Hubs. Each Router Hub collects and aggregates 12 Mflows/min (peak) from one or more IP network core routers via a UDP socket. Cisco NetFlow version 5, version 9 and Juniper cFlow are supported. Router Hubs allow flexible, custom-defined aggregation rules and aggregated data is periodically sent to the Flow Broker using sFTP.
2. A Highly Available Concert Flow Application Broker which collects, normalizes and integrates 3.6 million IP data records per minute (peak) from 6 Router Hubs. The Broker periodically sends CSV files with integrated statistical data to the Reporting Function via sFTP. File compression is configurable. In addition, the Broker can enrich the flow data with network topology data using one of



its library components. Concert's library components support the retrieval of topology data either directly from the network or from an Inventory application if one is available.

3. An IP Traffic Reporting Application, dimensioned to collect and store 72 million IP data records/hour (average), for a maximum of 260 GB/day of data. A predefined set of standard reports is provided (End-to-End-Traffic-Matrix, Traffic Distribution of a given End-to-End-Flow over intermediate Sites/Routers/Links, Top Applications delivered over a given End-to-End-Flow, Traffic Volumes between adjacent Sites/Routers/Links).

The Standard Concert Platform contains:

- Variety of self management interfaces, GUI, CLI, JMX
- Selection of SNMP, Socket, Telnet, SSH CLI, sFTP adaptors
- Delivers a minimum of five 9s availability (99.999%)
- Inventory component models for
 - IP
 - NGN
 - MPLS
 - ATM
 - FTM
 - Link Ethernet
- Concert default network models are DMTF CIM-based, but TMF SID-based models or vendor-specific models if required.
- Network topology and configuration viewer
 - Choice of topology views
 - Configuration details viewer

- Concert Inventory Export and Query interface
- Concert supports an add-on data filtering and mapping utility that can be used to dynamically reconfigure the format of the output being generated. It could be used to customise the output CSV format.
- The Concert O&M Console. It is a Rich Client Java application which facilitates the management of the Concert System Server(s). The application provides several facilities which allow for the system to be configured and managed appropriately.

The 6 Data Hubs were each deployed on a SunFire X4170 server, with 2 Intel Xeon 5540 CPUs and 16Gb of memory. Concert Netflow Mediator is a multi threaded solution and is ideally suited to take advantage of the multiple cores in the chosen CPUs. Router interface exports were processed in parallel.

Benefits

- Extends visibility into all areas of the network by easily monitoring and reporting on existing NetFlow records.
- Provides a robust and scalable NetFlow monitoring solution to support any size network.
- Enables you to monitor and optimize network usage without acquiring additional bandwidth.

