OSSera

Customer Experience Management

ABOUT US

OSSera, Inc. is a global provider of Operational Support System (OSS) solutions for IT organizations, service planning, service operations, and network operations. OSSera's multi-threaded symmetrically distributed platform fully leverages modern multi-core server hardware to provide higher flexibility, reliability, and scalability for service and resource management solutions. OSSera's products support the TM Forum's suite of standards especially in the area of Service Management, Fault Management, Performance Management, Data Mediation, and Configuration Management.

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Member of the TeleManagement Forum

Challenges and Data Sources

Customer Experience Management (CEM) has been described in various ways from the broader aspect of ordering, billing and B2B/B2C relationships to the technology experience with the actual services delivered by a communication service provider (CSP).

Challenges:

- How does a CSP monitor and measure true customer experience of the services delivered? - Today a bottom-up network to service model does not capture the experience of individual customers.
- How does a CSP plan and model individual customers? - Modeling customers can require millions if not ten's of millions of managed objects in a database. This may take hours to model and hours to load into any runtime system.
- How does a CSP monitor and measure customer service usage data which requires a huge amount of processing power? Solutions for service usage data processing requires tremendous scalability and throughput.

Data Sources:

OSSera has a platform to process any data source for CEM. We either partner or work with your existing service usage data sources to process and analyze it against your service models.

1. **Agent Approach** - Some vendors offer an agent which resides upon the set-top-box (STB), smartphone, or broadband laptop. These agents provide a view into what are the KPI's upon that device. Metrics are collected and stored in a database and thresholds can be set against KPI/ KQI's. The challenge is the agents are only running when the device is being used, and therefore data is intermittent. It provides a good set of data for Customer Care to spotlight the problem but usually does not give the root cause.

2. **Call Usage Data Approach** - Call Detail Records (CDR) or SMDR (Station Management Detail Records) are generated for each telephone call from the switch and pieced together to form a billing record. CDR/SMDR records contain the originating, terminating Telephone Number (TN), duration, and any information that may be used for billing (i.e.: Telephone Card usage, Long Distance, Inter/Intra-exchange). CDR/SMDR can be used to look at Service Usage. The challenge is this typically looks at voice call service and only calls that are completed. Calls that did not complete may be thrown away during processing if analysis takes place after the billing record is created.

3. **Signaling Usage Data Approach** - xDR's are captured and correlated by signaling probes. Various signaling probe vendors have probes which capture the protocol stack (i.e.: GSM, GPRS, UMTS, PSTN, VoIP, NGN, CDMA, and W-LAN) signaling data. The xDR has a wealth of condition codes that can be leveraged to analyze network, service, and customer quality. The challenge is the cost of probes can be high and also the volume of signaling records may be hundreds of times greater than Call Detail Records. xDR's will include SMS, MMS, and the individual set-up communication signals.

OSSera's Customer Experience Manager is built upon OSSera's OSS Explorer Platform

Our Solution

The products and services used by wireless consumers are collected most often through existing probe data sources noted earlier.

These probe xDR records are collected at high volumes and each record has a wealth of information that is aggregated and analyzed for possible problem conditions. Records have an International Mobile Subscriber Identifier (IMSI), location information, condition codes, and other attributes that help define the quality of the xDR record. These xDR records are associated with customer groups and monitored to ensure key high paying customers and VIPs are receiving the Quality of Service required by large high-ARPU corporations and VIPs.

OSSera's Customer Experience Manager Application is built upon OSSera's OSS Explorer Platform which provides the availability, flexibility, and scalability for high performance computing of xDR records.

The OSSera Platform is augmented with Data Analysis capabilities for xDR collection, indexing, data mining, data warehousing, data correlation, and reporting.

Customer Experience Manager is unique because of its multi-threaded symmetrically distributed architecture which can support a 99.999% highly available fault-tolerant solution. The platform has been designed from the ground up to be fault-tolerant due to its unique ability to distribute processing across a multi-server/multi-core virtualized environment and shift the load transparently based upon available processors and servers.

When two or more servers are used, the OSSera platform will distribute and load balance all processing of data, commands, and responses.

Customer Experience Manager is able to handle disaster recovery, event storms, and maintenance upgrades without skipping a beat. Never lose sight to critical logs that are critical for monitoring security, and network infrastructure.

Customer Experience Manager is also able to interface to existing customer and service Furthermore any anomalies in the syslog files can be identified and alarms can be forwarded North Bound to other OSS systems like a Fault Management.

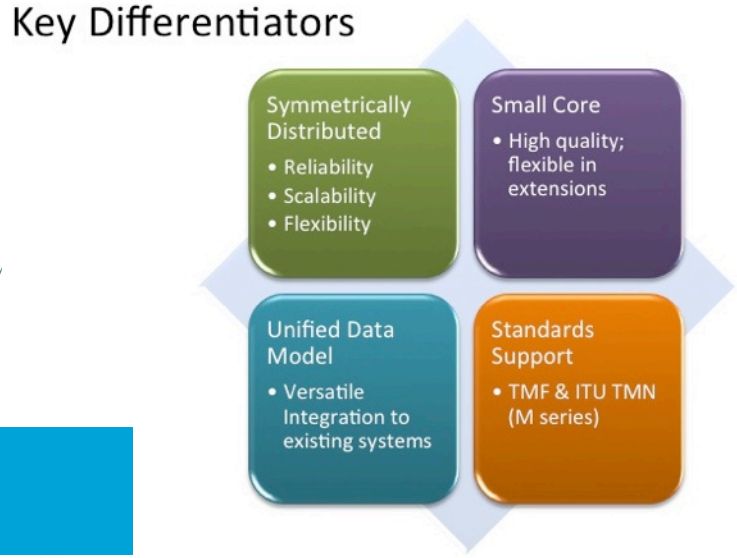
Customer Experience Manager Functional Overview

Functional Architecture

OSSera's Customer Experience Manager Functional architecture includes the following from the bottom up:

- Data Collection - leveraging the OSSera adapters to collect and normalize data (such as xDR, syslog, performance matric, etc) from different data sources.
- Data Indexing - messages are indexed appropriately such as by customer group.
- Data Mining - for quickly and effectively finding valuable data.
- Data Warehouse – Large volumes of data are processed efficiently stored for hourly, daily, weekly, monthly, or any user-defined time reports.
- Data Correlation - Filtering, suppression, and correlation logic is applied where appropriate for real-time and on-demand.
- Administration Tool - used to modify the above items.
- Reports –present customer experience.
- OSS Interfaces - such as integration to existing CRM, Service Management, and SLA

Visualization, Architecture, Extensibility, and Usability



Technology and Architecture

OSSera's fundamental architecture can support:

Tier 1 Scalability:

- No loss of events or system performance during an "Event Storm"
- Over 1000 concurrent clients
- N-number of redundant servers

99.999% High Availability

OSSera servers can be configured in a symmetrically distributed configuration. The fully distributed and load balanced processes require no primary to secondary back-up configuration where operators lack visibility to critical network/ service monitoring functions. The runtime processes can be configured along with database clustering to meet 99.999% availability requirements. To summarize:

- Servers are policy enabled and managed.
- Each server can be configured with redundant layers of software components.
- All servers are load balanced and share the duty in processing
- In the case of system failure, surviving servers will automatically redistribute the load to provide the highest system availability possible.

OSSera's Unified Services Frameworx architecture supports a complete Linux Redhat and MySQL deployment to lower your Total Cost of Ownership.

Also the software can run on your existing investment in Sun Oracle infrastructure fully leveraging any available hardware processing power.

NOTE: As a member of TMF, OSSera has adopted the TMF specifications on technologies and integration. A technology neutral approach has been followed. The software has been designed to be able to work on different platforms and adapt to technologies that are commonly used by the industry of today. As the technologies evolve, the software can be easily moved on to new technologies.

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