

# ECO Collect

## Simplifying data collection and analysis

### FEATURES

- Enable quicker problem resolution and lower average handle time (AHT)
- Enable proactive problem resolution and fewer subscriber calls
- Avoid data acquisition issues

### PRODUCT OVERVIEW

The evolution of bulk data collection has arrived. ECO Collect is the evolution of standard bulk data collection from provider's devices. It is a stand-alone feature of the ECO Service Management solution that enables massively scalable, high frequency data collection without impacting the performance of the back-end auto configuration server (ACS). ECO Collect also introduces the ability to assign collected diagnostic data to subscribers over time, which is referred to as historical data and enables providers to deal better with the costly intermittent nature of issues typical to complex next-gen broadband services.

Traditional ACS products do not have the capability to store big data, which requires them to frequently collect and store data from every device and subscriber and make that data available for days, weeks, or months. ECO Collect is a scalable data collection facility that provides for high-performance storage and retrieval of massive amounts of data.

#### Big data is different for our industry

Big data is the collection and storage of large, complex data sets. These data sets are so large (produced, for example, by querying tens of millions of devices every 15 minutes) that traditional data warehouse reporting mechanisms are often unable to handle the load.

ECO Collect eliminates this issue by breaking data into smaller chunks and analyzing the data as it is pulled into the system. The data collected and processed by ECO Collect is used by ECO Service Management applications. Operational personnel use this data to find trends for problems and to find subscribers' habits in service usage.

#### ADDITIONAL ECO SERVICE MANAGEMENT PRODUCTS

ECO Collect works in conjunction with several other ECO Service Management products.

##### ECO Manage

ECO Manage is an ECO platform product that simplifies the management and support of services and devices. ECO Collect and ECO Manage work together to provide a massively scalable diagnostic and decision engine.

##### ECO Assist

ECO Collect provides processed device diagnostic data to the ECO Assist web application to help customer service representatives resolve subscriber issues.

##### ECO Monitor

ECO Collect provides processed device diagnostic data to the ECO Monitor web application to help operations personnel oversee subscriber service availability and quality.

ECO Collect is capable of scaling to very large numbers of subscribers. It can be deployed in a distributed manner or in a centralized manner to minimize the impact on the provider's network. The transactions between the devices and the big data storage facility are compressed and batched. The evaluation of the device data is calculated at the time of data acquisition. This allows for more complex analysis in real-time without the need for a large and costly back end infrastructure. Both the raw data and the calculation results are stored for later use. Advanced scheduling and load balancing are used when collecting data from devices. ECO Collect is built on a distributed computational and storage cluster leveraging state-of-the-art big data technologies.

### Enable quicker problem resolution and lower AHT

With the traditional troubleshooting process, it is difficult to determine where the fault is located. This means average handle time (AHT) is increased and repeated truck rolls are required. Time used per trouble ticket both in-home and in the field is too long.

ECO Monitor provides tools that enable operations personnel to determine the geographic location of the problem and which devices are affected. This means more focused troubleshooting and quicker resolution.

### Enable Proactive problem resolution and fewer subscriber calls

With the traditional troubleshooting process, faults are handled with a reactive approach; incidents have occurred and subscribers have complained already when fault rectification starts.

ECO Monitor relies on key performance indicators (KPIs) that combine diagnostic results that help determine the health of a service with alerts that determine thresholds for those results. KPIs monitor either the good or bad performance of a service, using diagnostics that determine the health of a service by evaluating statistics in the device data model. They alert when a specified percentage or number of the population devices match the KPI.

Diagnostic definitions are more than just retrieving statistics from the device data model. Complex diagnostic calculations can be defined for device data models to allow for a common view of the health of a service, regardless of the device manufacturer. These complex diagnostic calculations can be fed to other provider systems or to ECO Monitor to give an overview of the health of all services within the provider's network.

Sometimes network infrastructure probes can miss problems especially when the problems are new and previously undetected. Network operations systems can get a summary of the entire device population to aid in the monitoring of the network infrastructure. Subscriber usage patterns can be mined easily from the data using ECO Monitor or other provider standard reporting and analysis tools. When ECO Collect is used in connection with ECO Manage, the result is a massively scalable diagnostic and decision engine.

### Avoid data acquisition issues

It is important not to overload the ACS provisioning and management capabilities by adding large amounts of device diagnostic information; however, the more device information collected, the easier and quicker problems can be solved. ECO Monitor solves this problem through the ECO Collect infrastructure, which relieves the ACS from the burden of collecting CPE diagnostic data.

In typical big data deployments, large amounts of data are gathered and queued for analysis at a later time. Analyzing large data sets either takes a very expensive infrastructure or a very long time to process. ECO Monitor solves this problem by analyzing the data at the time of data acquisition. By having the raw data and the results stored, real-time analysis can be conducted where typical big data solutions would take days or weeks to provide analysis.

## CUSTOMER CARE

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