



## Octillion Technology Inc.

# Reliability Testing and Analysis (RTA)

### Introduction

Product companies do reliability testing of their devices and conduct statistical analysis of varying complexity to determine warranty implications of their products. The efficacy of reliability testing goes well beyond product launch. In fact, it lasts product life cycle. Therefore, efficient management of reliability testing is very important.

Octillion's RTA System allows companies to manage testing process efficiently and effectively. It reduces costs by saving time of highly skilled engineers otherwise spent in data acquisition, test-data analysis and dissemination of device information to other users in the company through Excel and other means. It saves warranty costs throughout the product life by efficiently correlating device failures to inferences derived from analysis and revising device performance expectations.

RTA system runs on highly stable and secure Linux operating environment. It uses open source database technology: MySQL. User interface is through browser which allows remote access to users. The use of open source systems helps control costs further, without sacrificing scalability, maintainability and security.

### Reliability testing and analysis system manages the following:

- Device parameter records for the complete set of parameters
- Lot parameter records to accumulate data relating to test lots
- A centralized, scalable, extensible, and supportable relational database to support the data
- Analytics engine to provide required reliability analysis
- Browser based user interfaces to:
  - Manage user access
  - Lot formation input
  - Selection of the type of analysis on device parameters: Standard values or Normalized values
  - Graphic display of analysis



## Octillion Technology delivers the following:

- Product configuration based on the following inputs:
  - Existing reliability testing process
  - Parameters definitions
  - Tester outputs from all tester types in use
  - Charting requirements
  - Data normalization in use
  - Definition and computation of derived values from standard parameters
  - Lot description parameters in use
  - Classification of lot parameters according to entry value, options and sources (tester generated or manual)
  - Choices of all possible fields requiring drop-down menus
- Implementation of a lot parameter database
- Data extraction, transformation and loading to the chosen database
- Tester output data transfer interface configuration to database, online and in real-time
- Transfer of historical data of tester output to the database
- Implementing analytics to provide the following:
  - Charting of all parameters values (absolute and normalized)
  - Configuring user interface to select the device numbers, test type, type of data and parameter to chart
  - Configuration of user interface for creation of a lot
- Testing and troubleshooting
- Application rollout
- Training for end-users

