Automation techniques

Paul Holland

Alcatel Canada

Automation Environment

- Based on Tcl (Tool Control Language)
- The environment has developed over the past 10 years.
- Configuration management commands are integrated into the environment.
- Built in ability to "variant" the code that is executed based on the model of the product and the release of the product being tested.
- By default, it is very cumbersome to use.

Default method of coding

- Coding standards were implemented fairly early on – primarily came about because of the varianting which broke fairly often.

- "No rules" Tcl. Everyone codes their own routines and rarely shares between functional groups.

- Inefficient. Many people coded similar routines.

Common low level procedures

- Similar to default method, but known "good" low level routines were encouraged to be used.

- Low level routines should only have one step.

- Higher level routines (scripts) would be written by calling the low level steps.

- It was difficult to get consensus between groups because of all the existing code within each group.

- Would have worked much better if used from beginning.

Data Driven – Op Parser

- Developed to speed up repetitive type of tests.

- Data driven scripts that have specifically formatted "Op"eration files dramatically sped up the time for script development (~75% less time).

- Knowledge of Tcl for script writers is reduced (as long as new Ops are not required).

Object oriented approach

- Also decreased the script development time.
- Allowed a lot of sharing of previously developed code (within the OO approach) with new functional areas.
- Complicated to implement new low-level routines. Requires a small dedicated team.
- A lot of work was spent up front to develop the infrastructure (> 2 designer yrs).