Formalization and Engineering of Spreadsheet Systems

VIPANA

Use spreadsheets to conceptualize and test simple ideas

Old spreadsheets are often convoluted, undocumented and tend to break easily when even the smallest changes are made to them. Many companies now find themselves increasingly dependent on spreadsheets that have matured over time but whose internal logic and dependencies are neither formalized, consistent nor scalable. Popular due to their intuitive spatial interface, spreadsheets that have evolved into critical applications pose a serious risk to businesses everywhere.

The cost of *Spreadsheet Engineering* is geometric as the complexity of cell interdependencies increases. Referential dependencies within spreadsheets and hard-coded functions further complicate the matter. As the need to share spreadsheets becomes more acute, the time-consuming effort required to ensure validity and consistency becomes prohibitive.

Use BlackBox™ to *transform* ideas into robust enterprise-class systems

	BlackBox™	Spreadsheets
Architecture	Data-Driven; Event-Driven; Compiled	Event-Driven; Interpreted
Capacity As data → large	Limited only by physical memory and storage space; No Dimensional limit	Limit of 65,536 rows by 256 columns per sheet; 3-Dimensional limit
Performance As logic → complex	Multi-threaded; Scales with processing power	Single-threaded; Complex calculations tie-up further processing
Collaboration	Unlimited # of simultaneous users; Users access same logic	Single user; Users have separate copies
Maintainability	Changes occur in a central repository	Changes in individual copies must be merged
Reusability	Sheets become stand-alone modules	Sheets must be duplicated to be re-used in a different context
Interface	Desktop/Web; Tabular Interface; Customizable Interface	Desktop; Tabular Interface;