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Semicustom Subsystems Series — Redundancy Control Chassis

The "Semicustom Subsystems" design concept allows the System Designer to concentrate in developing the core aspects of his/her technology. "Farming out" non-core aspects of the design allows a higher degree of parallelism in the product development. Marketing can also benefit by being able to have detail definition of the "Semicustom Subsystems" portion of the product specs very early in the product development process.

Product Description & Target Applications

It consists of a three RU high chassis to be the front-end for existing telecom and datacom products. It provides 1:N redundancy by diverting the traffic originally handled by a failed card. The overall product is designed to meet "Central Office class" requirements, typically used in Telecom and Datacom applications.

Standard & Customizable Features

The design is 3 RU high, for mounting in 19" or 23" racks. The custom adaptations to the basic design result in unique combination of features to fit the exact needs of the Systems Designer. These are some examples of its adaptability:

1) Depth: 12" to 20" approximately, w/o external connectors.
2) Width: Mounting into standard 19" or 23" telecom sub-racks.
3) Mounting options: rack center mount, rack flush mount. This whole chassis can be shifted in depth to adapt to special front access requirements.
4) I/O Access: front or rear
5) Control inputs: option of async serial or bit-per-card signals.
6) I/O types: three basic types with different implementation requirements (twisted pairs, used up to E1 signals; high frequency coaxial, used for DS3 signals; and optical signals). The total insertion loss varies between one dB and 3 dB.
7) Power input voltage: options for unregulated nominal voltages of 12V, 24V and 48V.
8) Low cost: a typical implementation of the chassis in medium quantities, with local manufacturing will cost between $290 and $600 ea., depending on features and configuration. The cost of the electrical boards can vary substantially with the implementation requirements.

Customization Process

Once the customer decides about features and options, our designers produce the mechanical drawings, 3-D models, preliminary electrical design, provisional costed Bill of Material and system MTBF chart.

Agency Approvals

After the prototyping, a full characterization of the product is performed. This characterization is done with the actual customer chassis and cards if available.

Production

The customer can purchase the non-exclusive manufacturing rights and full documentation for this product. Usually we can work with the manufacturing facility of customer' s choice. Alternately, we can provide coordination with the different vendors and act as the customer's agent to deliver turn-key units. The designs are optimized for medium size manufacturing runs, from tens to many hundreds of units. For even larger volumes, additional optimizations are advisable in order to adapt to the machinery and practices of the chosen manufacturing facilities.