January 18, 2005

TECHNICAL UPDATE
COST COMPARISON
Snake Bus vs. Pipe & Wire

Cost awareness remains one of the top priorities for any project budget today. Quality of components is still at the forefront, however cost considerations are of utmost importance in every estimators mind. Snake Tray products fulfill both roles by providing exceptional quality materials with unique designs, allowing for unmatched ease of installation. Every component in the Snake Tray Snake Bus product suite has been developed with this theory, and must fulfill that most basic requirement.

1. 56 Cabinets each requiring an A & B power circuit for redundancy
2. Available power was 240kVA
3. Typical components in each cabinet were blade servers
4. Standard construction principals were used to formulate original quote
5. Assume that the main power distribution panel for the data center has been installed

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CABLE MANAGEMENT AND POWER DISTRIBUTION
291 Skip Lane ♦ Bay Shore, New York 11706 USA ♦ TEL: (800)308-6788 (631)674-0004

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Charles Hoyler Electrical Contractor Inc.

Project: Invision / 30AMP Feeds

Original proposal using traditional wiring methodology i.e. Pipe & Wire

Item Nbr	Description	Qty	Price	U	Labor	U	Material $	Total hours
1	4" square box 2 1/8"D Comb KO	110	$274.63	C	0.18	E	$302.09	19.80
2	INS Pigtail w/grd SCR	110	$61.14	C	0.03	E	$67.25	3.30
3	12/2 Steel MC cable w/green ground W	5500	$347.44	M	8.00	M	$1,910.92	44.00
4	3/8" SS Flex/BX Conn	220	$35.47	C	0.08	E	$78.03	17.60
5	30A/125V 2P3W Tw-Lk Rcpt (L5-30R)	220	$14.35	E	0.22	E	$3,157.00	48.40
	4" Sq 1G Power Rcpt Raised cover	110	396.03	C	0.08		$435.63	8.80
		Material total					$5,515.30	
		Labor Total						141.90
		at $69.30/hr loaded labor					$9,833.67	
		Total Installation					**$15,348.97**	

Accepted proposal using a Snake Bus solution

1	1" Unistrut Clamp EMT	100	$74.00	C	2.00	C	$74.00	2.00
2	12 Gauge 1 5/8" x 13/16" Channel	40	$301.96	C	9.71	C	$120.78	3.88
3	1" Plastic Anchor w/#12 Screw	96	$0.14	E	0.04	E	$13.44	3.84
4	1" 2-Screw Die-cast NMC Conn	32	$99.20	C	0.05	E	$31.74	1.60
5	#8-6 Wire Termination Labor	160	$0.00	E	0.03	E	$0.00	4.80
6	Cut 12 Gauge 1 5/8" x 1 5/8" Channel	10	$0.00	E	0.15	E	$0.00	1.50
7	8-4 MC cable	800	1.63	E	2.00	C	$1,304.00	16.00
8	Snake Bus - CM707-50-8-8	32	107.26	E	0.15	E	$3,432.32	4.80
9	Snake Bus - CM707-50-FM	16	36.36	E	0.20	E	$581.76	3.20
10	Snake Bus - CM707-30-TO-10-L1/2	56	38.45	E	0.15	E	$2,153.20	8.40
		Material total					$7,711.25	
		Labor Total						50.02
		at $69.30/hr loaded labor					$3,466.66	
		Total Installation					**$11,177.91**	

Actual project cost using a Snake Bus solution

1	1" Unistrut Clamp EMT	50	$74.00	C	2.00	C	$37.00	1.00
2	12 Gauge 1 5/8" x 13/16" Channel	20	$301.96	C	9.71	C	$60.39	1.94
3	1" Plastic Anchor w/#12 Screw	200	$0.14	E	0.01	E	$28.00	2.00
4	1" 2-Screw Die-cast NMC Conn	16	$99.20	C	0.05	E	$15.87	0.80
5	#8-6 Wire Termination Labor	80	$0.00	E	0.03	E	$0.00	2.40
6	Cut 12 Gauge 1 5/8" x 1 5/8" Channel	0	$0.00	C	0.15	C	$0.00	0.00
7	8-4 MC cable	800	$1.63	E	1.00	C	$1,304.00	8.00
8	Snake Bus - CM707-50-8-8	32	107.26	E	0.04	E	$3,432.32	1.28
9	Snake Bus - CM707-50-FM	16	36.36	E	0.12	E	$581.76	1.92
10	Snake Bus - CM707-30-TO-6-L1/2	56	38.45	E	0.20	E	$2,153.20	11.20
		Material total					$7,612.54	
		Labor Total						30.54
		at $69.30/hr loaded labor					$2,116.56	
		Total Installation					**$9,729.10**	

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Conclusion: Snake Bus is a paradigm shift in the way we view power distribution under raised floors. For years, the only available method of providing power under raised floors in the data center environment was to run conduits, liquidtite whips and junction boxes under each and every cabinet, rack or server. Additionally, in the general office space or call center, each desk received its own junction box, possible two depending on the power consumption. All this led up to what we typically see under each and every floor we visit, a "Rats Nest" of cables, wires, conduit and boxes.

Snake Bus has eliminated this phenomenon by actually bringing the power grid right to the floor level. The bus bar technology allows greater power to be directed under the floor than could be done with standard pipe and wire methods. With 50AMPS and 15,000W of available power per channel, Snake bus has literally brought the **Power Grid to the Rack!**

The analysis above illustrates the tremendous savings available by using a Snake Bus solution rather than the old tired pipe and wire method. An over all savings of 37% was gained by using the Snake Bus method. That includes both labor and materials. What is more significant is the fact that over 100 man-hours were shaved from the budget. Translated into hard numbers, a savings of two men over a six-day period was acquired. Resulting in a complete operational system being delivered six days ahead of schedule. Imagine the possibilities of that sort of savings for not only the contractor, but also more importantly the end user whose data center and/or office space is up and running earlier.

Two additional added benefits of the Snake Bus system are that because it's "Plug and Play" design, adds moves and changes are completed in minutes rather than days. Simply unplug the devise, relocate and plug it in again. It's that easy. No longer do you have to run a completely new 20AMP home run circuit back to the electrical panel. It's already in the floor. In addition, the Snake Bus is considered equipment rather than a capital expense and can be depreciated over a very short period.

In conclusion, Snake Bus has changed the way we manage power under raised floors. Virtually all applications can now be completed in days rather than weeks. It is truly the paradigm shift in the electrical installation world that will change the way we do business.

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