



Monitoring and Control Data Van



Supreme Electrical Services, Inc. is proud to offer this technical brief for our 26' Monitoring and Control Data Van. This Data Van incorporates some of the latest technological advancements in electronics for the Well Servicing Industry. This system is a designed specifically for acquiring data and controlling all aspects of a typical Fracturing Spread. Please see the detailed technical information about each aspect of this van package.

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Van Body Information

- For detailed pictures of van and interior layout please visit <http://supreme-electrical.com/datavan>

Cabin Dimensions:

- 26'L x 8'W x 6'6" Interior Height

Body Exterior:

- *Entry Door:* Double sealed, DOT approved latch design, Two insulated windows, Door hold back/open, Exterior Handle 2 - Interior grab handles for Exit/Entry - Magnetic switched door light, Insulated
- *Belly Box Doors:* 6-Double sealed, Flush style lockable latch, Door hold backs
- *Access Doors:* 2-Double sealed, Flush style lockable latch, Door hold backs
- *Wheel Well Opening:* Wheel wells to flip up and latch for ease of access to tire
- *Windows:* 8-Double pane insulated, Safety glass, Black framed, Tinted
- *Step System:* 2-Bi-fold aluminum step assembly that stow under entry door in its own box with door
- *Wall Extrusion Style:* 2X2 Aluminum studs with reinforcements for specialty items
- *Exterior Skin:* .090" Aluminum smooth exterior skins bonded to aluminum structure
- *Roof Design:* Arched one piece roof skin for water runoff and rubber coated
- *Flooring/Decking:* 3/4" decking with a vinyl flooring overlay
- *Insulation:* Foam block
- *Interior Ceiling Liner:* Padded vinyl ceiling liners with batten strips
- *Belly Boxes and Rear Compartment:* Belly boxes will be sealed and herculined, reel compartment to house 12 reels
- *Body Mounting:* 4 - rubber isolators body mounts, 4 guide plates and 2 - sliding body mounts
- *Bumper:* Round tube bumper with 2" receiver tube and 7-pole trailer connector assembly

Electrical 12 Volt System:

- 2-deep cycle batteries with a cut-off switch and battery isolator that runs to a 12-position fuse panel
- 12v-100amp C.B., 1- 12volt florescent lights, LED light package strips of lighting
- AM/FM/CD/MP3 Stereo head unit with 4- speakers and external whip antenna
- Full DOT lighting package, 8 - 12volt puck lights in cabin

Electrical 110 Volt System:

- 18 breaker - 110volt control panel, Manual transfer switch (Generator/Shoreline)
- Hubble 100A receptacle and supplied plug
- 1- Exterior GFI outlet in belly box by entry door 2 - in rear compartment
- 19 - dirty outlets, 13 - clean outlets
- 6 - Exterior work lamps 1000watt each

Van Body Information (continued)

Generator System:

- 20YD Onan PTO generator system with voltage/hertz/amps display
- 20KW Rating
- Frequency: 60Hz
- Input Speed: 1800 RPM

Interior Layout:

- Walls are smooth gray FRP wall liner with the floor and door opening trimmed out in Alm DTP
- Ceiling is covered with a plush padded vinyl liner trimmed with gray batten strips
- One piece gray rolled coin flooring trimmed in Alm DTP
- U-shaped solid surface counter top will made in the customers company colors with small tablet top
- Fresh air system and 5K BTU Diesel cabin heater mounted in a small box @ the front of the cabin
- Cabinets: 1 - rear upper cabinet, 1 - upper front cabinet, 1 - side upper cabinet, 2 lower 4 drawer cabinets
- Cabinets are aluminum CNC machine precise fitting with easy pull handles for entry

Furnishings:

- 6 - roll around chairs that fasten to the countertop for transportation
- 1- 3 bank of theatre seating with customer logo embroidery on center back seat
- 1- 20# Fire Extinguisher

Paint & Graphics:

- Painted to match customer's colors and logos

Computer Hardware and Software Architecture:

Server / Computer Equipment

- 2 - 2U Rack Mount Servers
- RAID 5 fault tolerant storage array (Storage Area Network)
- Uninterrupted Power Supply (UPS)
 - 30 minute back up power for critical systems
 - LED Display for operating information of unit
- Both Servers running Windows 2003 Server with Virtualization software serving as host to four instances of Microsoft XP Professional. Each Instance of XP Professional is tailored to meet the application needs of each station (Treater, Engineer, Pump Operator, and Customer Stations)
- Each server hosts “guest” operating systems, and in the event of server failure, the other server provides a hot failover instance of the same operating system instance

Data Van User Equipment

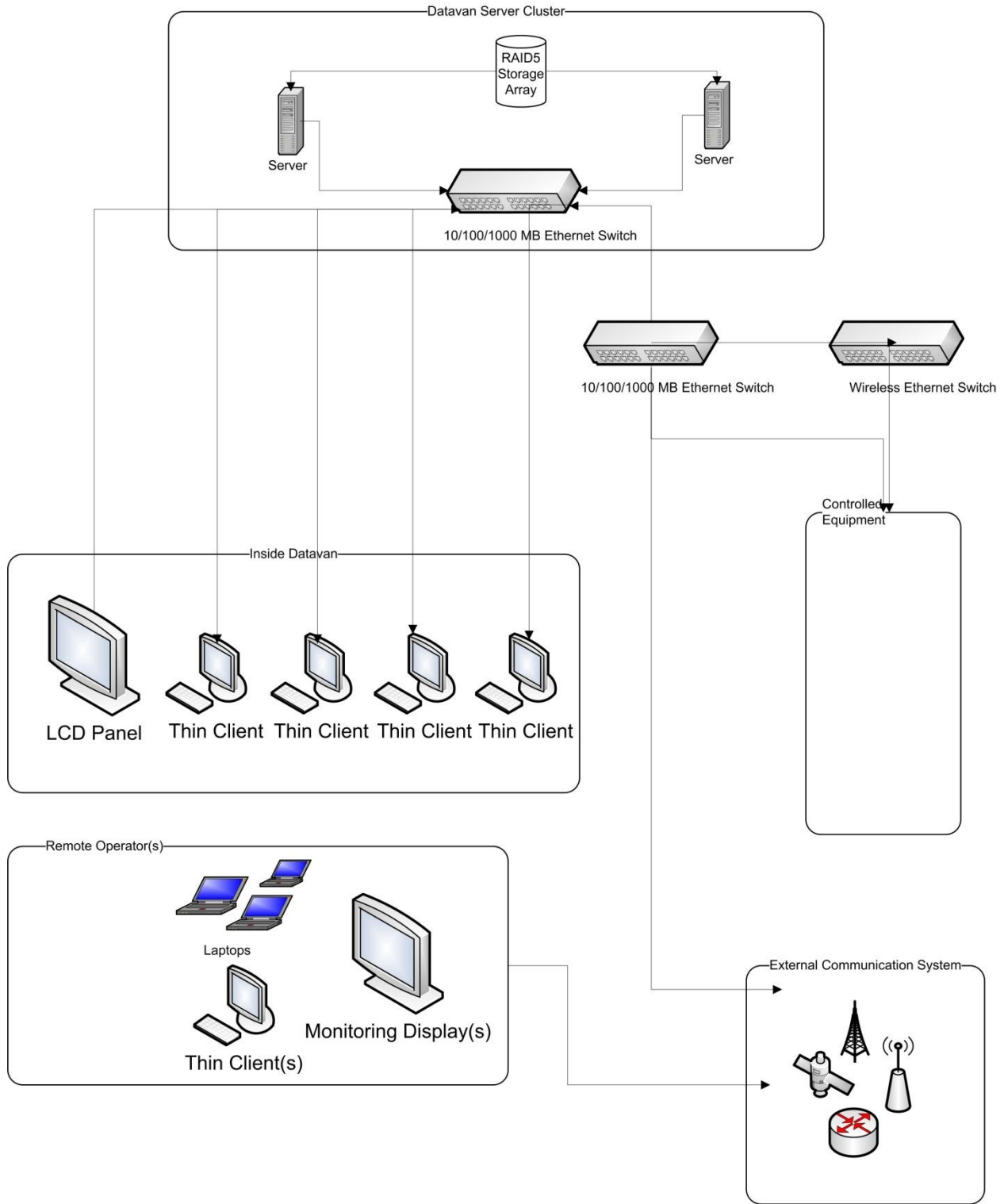
- 5 Thin clients computers running XP embedded (or CE depending on configuration of Datavan) which are configurable to attach to one or more running images of XP Professional hosted on the servers. In the event of thin client failure, the operator may re-attach to the still-running operating system via a different local thin client station or a laptop, in addition, spare thin clients can be stored in the vehicle.
- Remote clients may access the locally running instances of XP Professional hosted on the server cluster if the Datavan is equipped with appropriate communication gear. The remote operator can operate with the exact same computer environment as a local operator. This feature will allow Supreme to remote service and monitor our Controls & Instrumentation as well as give remote access for service companies and your customers as well.

Computer and Display hardware

- 4 - Thin client PC's
- 3 - 20" Wide screen LCD's
- 1 - 47" High bright ruggedized LCD for system overview
- 1 - 32" Touch screen LCD's for Pump Operator Station at rear of cabin
- UPS for 30 minute backup in the event of power loss

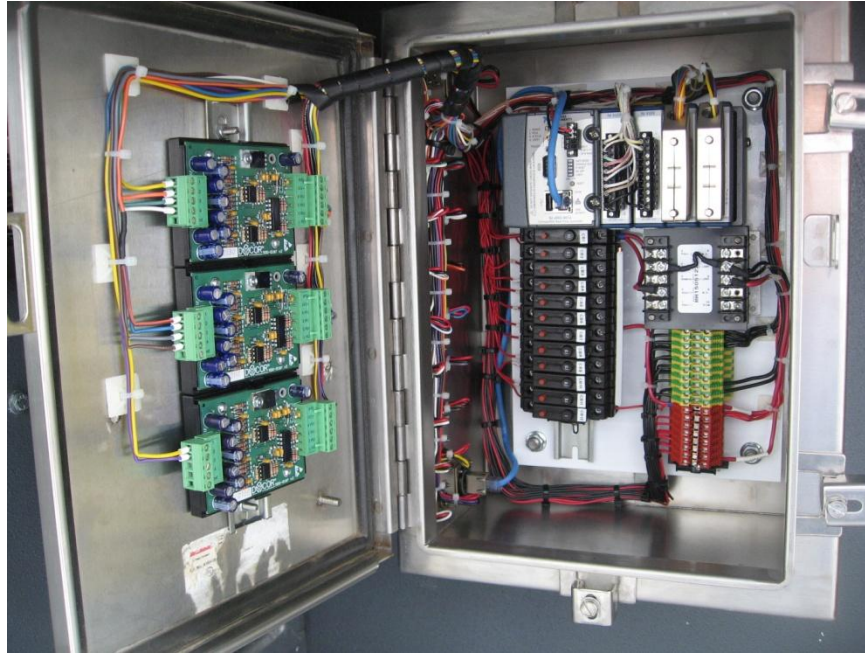
SEE DIAGRAM ON NEXT PAGE FOR FURTHER DETAIL OF SYSTEM ARCHITECTURE

Datavan System Architecture Diagram



SES Controls & Software

Data Acquisition Hardware

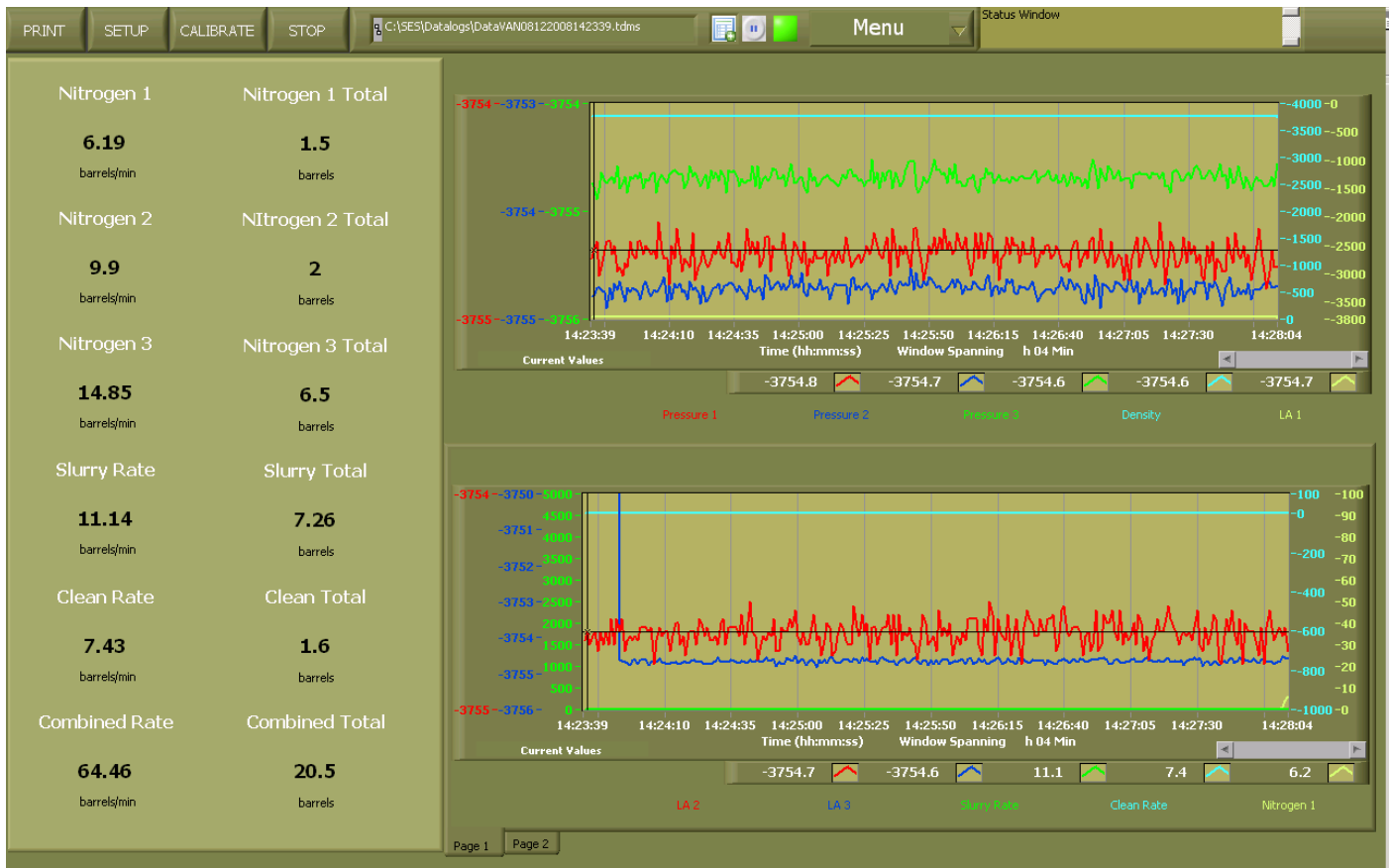


- Rugged construction
- Operating Temp -40 C to 60 C
- USB memory Stick for data transfer and storage without use of PC
- 10 configurable analog inputs
- 12 digital channels
- Mounted in a NEMA 4X environmentally sealed enclosure
- Web Accessible
- Up to 5 million data points stored in secure, non-volatile internal memory
- 10 configurable frequency inputs
- 15VDC Power Supply
- Multi-Communication Capable
 - Ethernet
 - USB
 - RS 232
 - RS 485
 - Modem support

Real-time Charting & Analysis Software

Real-time digital display

- Bottom hole pressure
- Pump rate
- Calculated horsepower
- Blender density
 - Sand con
 - Carrier fluid density
 - Slurry fluid density
- Discharge pressure
- Blender suction and discharge rates
- Chemical rates and totals
- Target densities
- Stage Totals
 - Fluid totals
 - Sand totals



Pre and Post Job Reports

- Job reports tailored to customer specifications
- Print job invoices to submit to customers
- Generate graphical reports for a more professional presentation to your customers

Multi-Pump PC Software



Individual Pump Control Screen



Multi-Pump Control Screen

- Group and control multiple fracturing pumpers with a single operator
- Control up to 15 frac units per display screen.
- Control a group of pumps as if there was one
- E-Kill all pumps simultaneously or individually
- Over Pressure Shutdown capable, change set point on the fly
- Wireless or wired control of all pumpers
- Dynamic IP addressing so there is no limit to the number of pumpers that you can bring on location to control

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