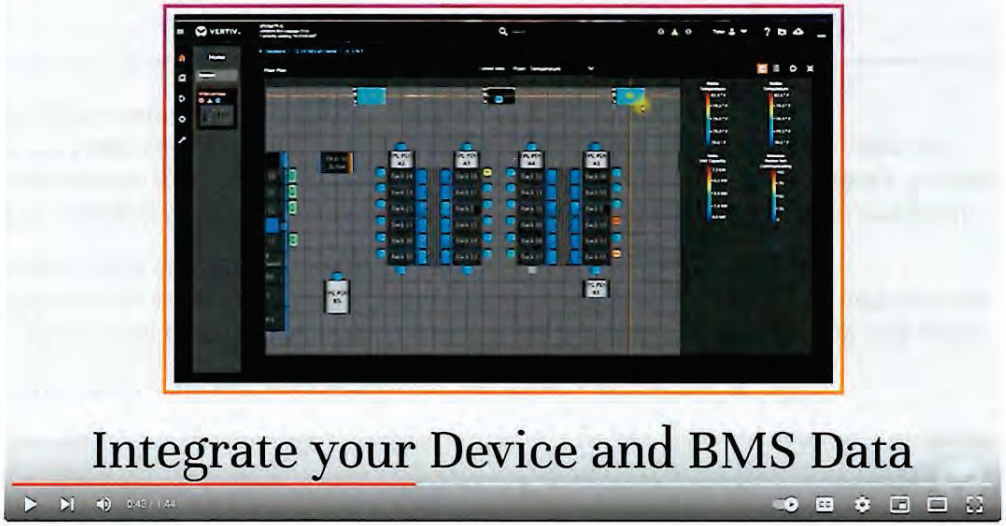
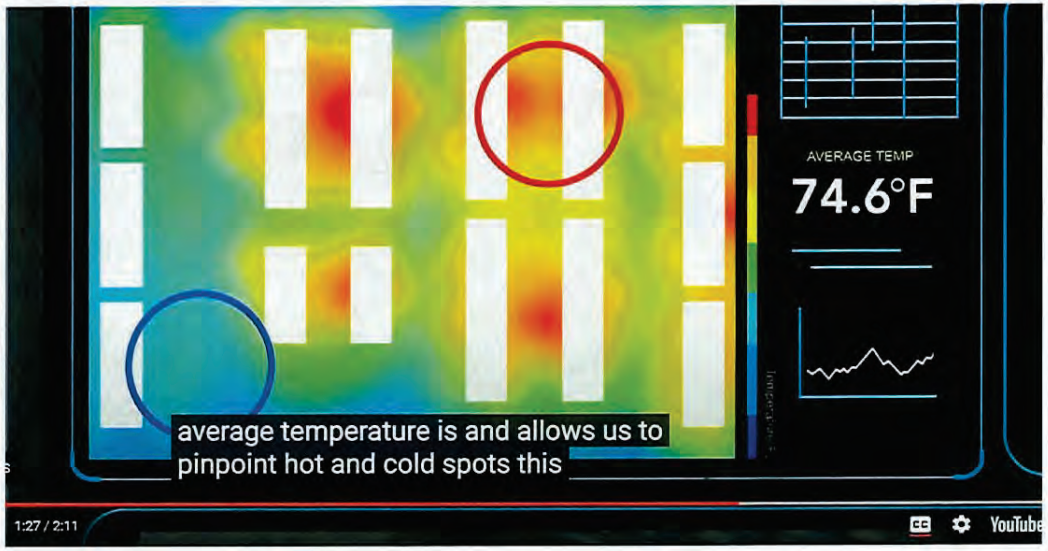
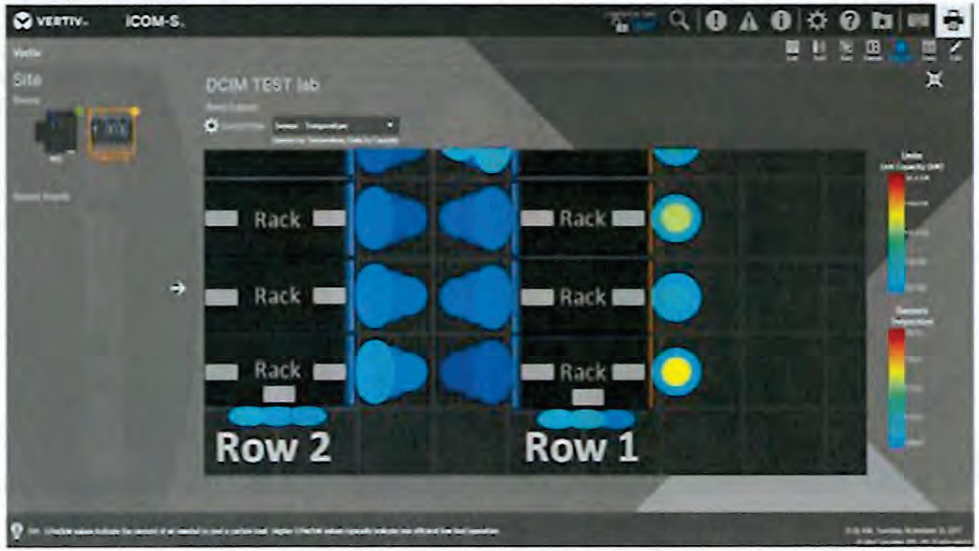
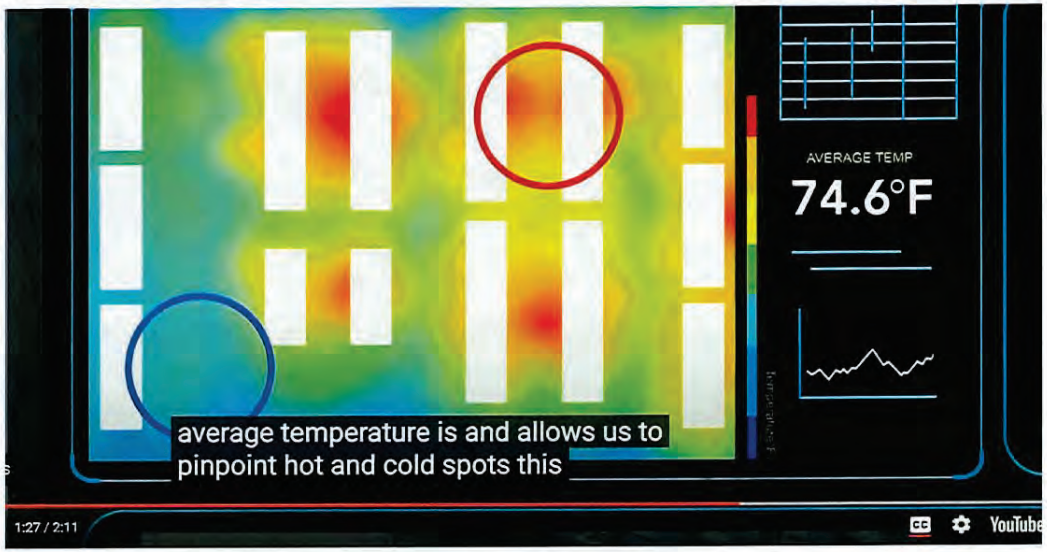
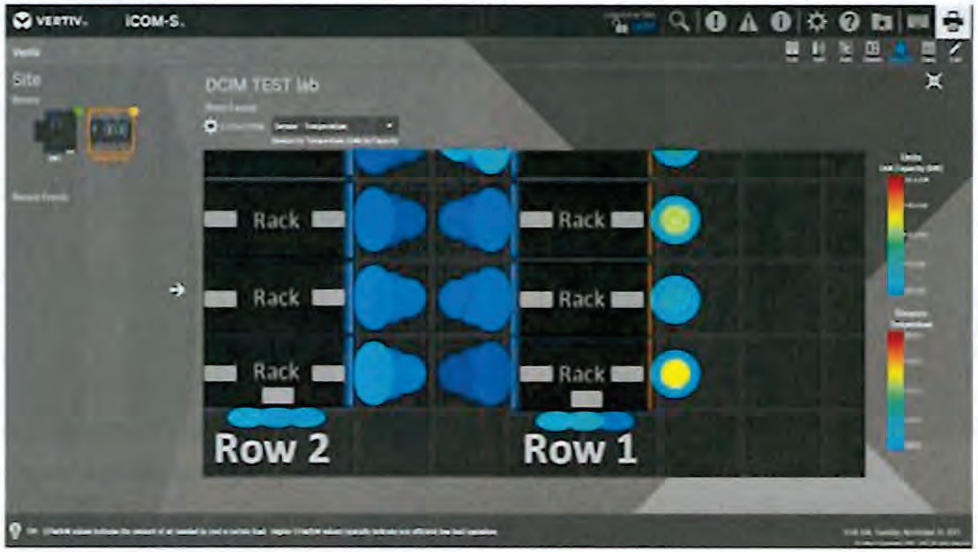
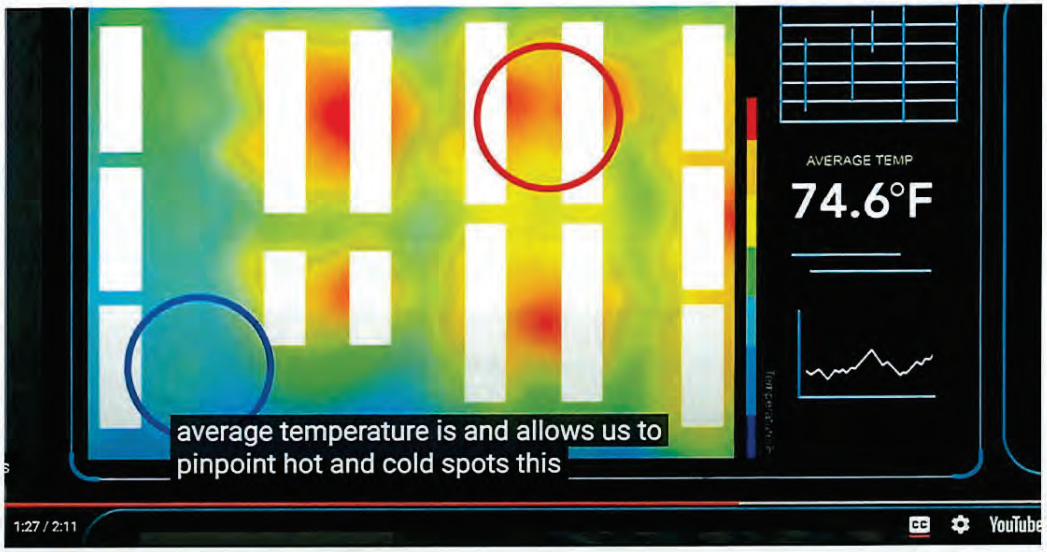
Claim 1	Exemplary Evidence of Infringement by CyrusOne
	 https://www.youtube.com/watch?v=pJutGw7rrF0 at 0:43. **5.1 Preparing for U2U Group Set Up** Cooling units in the network will be assigned to groups, which affects how units function in teamwork, standby, rotation, and cascading operations. Especially in large rooms, it is important to consider several factors before setting up groups to balance cooling unit operation with room conditions. **NOTE: For ease of set-up and use, we recommend using only one group unless you have multiple rooms, differing software versions, or different types of cooling units.** 1. Make a map of the room and indicate the location of all heat-generating devices and cooling units to plan for proper heat load management and cooling-air distribution. 2. Note the type of units by product/model, size, etc. 3. Determine the number of units to network together to ensure proper air flow and environmental control, up to 32 units. 4. Determine number of standby units.

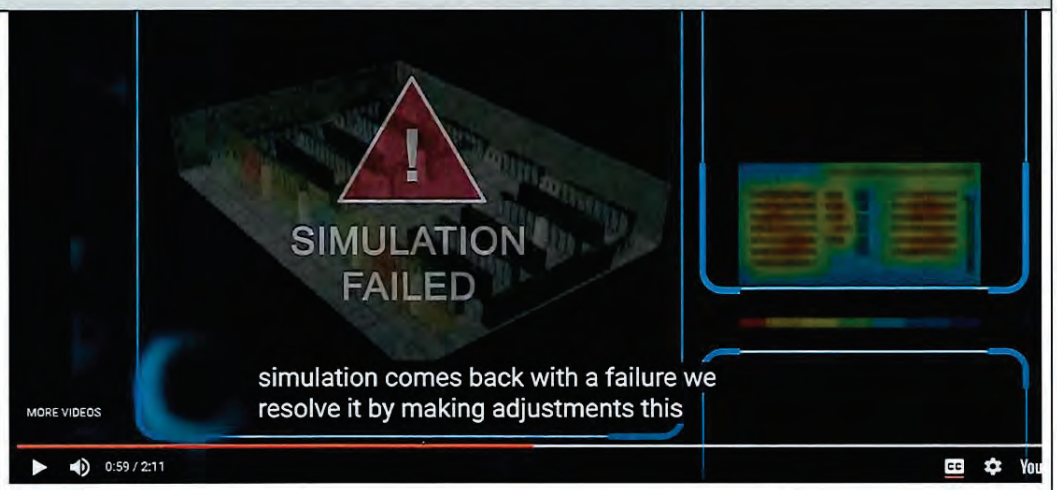
Claim 1	Exemplary Evidence of Infringement by CyrusOne
	iCOM Manual at p. 94. CyrusOne also uses CyrusOne cooling to generate a 3D temperature map based on real sensor readings retrieved throughout the data center. CyrusOne cooling processes temperature inputs from the sensing step and produces output in the form of a data center temperature map, which can be viewed as a calculated or measured map.  https://www.cyrusone.com/data-center-solutions/colocation , at 1:27;
[1d] comparing said empirical atmospheric map to a template atmospheric map; and	CyrusOne compares said empirical atmospheric map to a template atmospheric map. For example, CyrusOne uses Liebert iCOM. Liebert iCOM compares an empirical atmospheric map to a template atmospheric map, for instance by comparing current temperatures to template setpoints.

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	2.4 Viewing Sensor Data The Sensor Data panel lists the standard and optional sensors monitored by iCOM™and the current reading of each sensor. • Touch , then > *Sensor Data*. The SENSOR DATA panel opens. A secondary panel displays the DAILY SENSOR READING SUMMARY, which shows temperature, humidity and dew-point readings for the cooling unit. iCOM Manual at p. 20.  https://www.dksh.com/global-en/products/iot/vertiv-thermal-control-and-monitoring CyrusOne also uses CyrusOne cooling to generate a 3D temperature map based on real sensor readings retrieved throughout the data center. The data center temperature map

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	can be viewed as a calculated or measured map. The measured map can be compared against a template map.  https://www.cyrusone.com/data-center-solutions/colocation , at 1:27;
[1e] identifying pattern differentials between said empirical and template atmospheric maps.	CyrusOne identifies pattern differentials between said empirical and template atmospheric maps. CyrusOne uses Liebert iCOM. Liebert iCOM identifies pattern differentials between the empirical and template maps, for example, by identifying when sensors are reporting conditions that exceed template conditions.

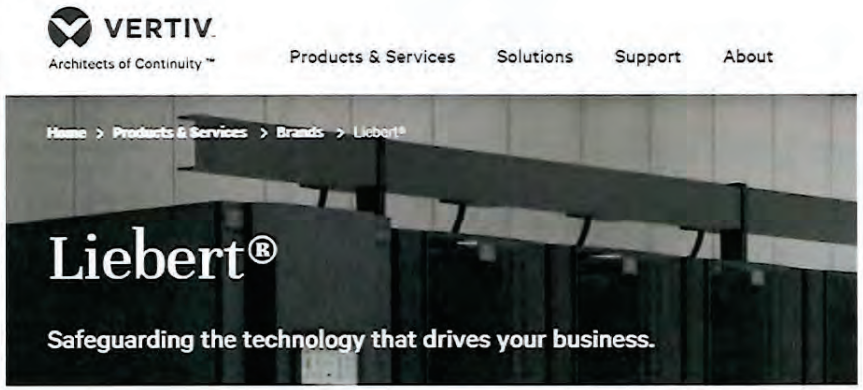
Claim 1	Exemplary Evidence of Infringement by CyrusOne
	4.2 Enabling Events and Editing Event Settings In the ALARMS & EVENTS panel, events are grouped into categories for easier management, for example, the factory set remote sensor alarms and humidification/dehumidification events. In some cases, touch the group heading provides edit options for the entire group, like thresholds, delays and enable/disable. Each event includes settings specific for that event and the notification option where event type and alarm notifications are selected (See Selecting Event Type and Setting Alarm/Warning Notification on the facing page). 1. Touch SERVICE, then ☰ > *Alarm/Event Setup*. The ALARMS & EVENTS panel opens. 2. Scroll or search to find the event, touch the set's heading to display theproperties and values for the entire set in the EDIT panel. – or – Touch an individual alarm or event to display it's specific values in the EDIT panel. iCOM Manual at p. 80. 

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	https://www.dksh.com/global-en/products/iot/vertiv-thermal-control-and-monitoring CyrusOne also uses CyrusOne cooling to generate a 3D temperature map based on real sensor readings retrieved throughout the data center. CyrusOne cooling determines if there is a failure indication of the effectiveness of the active cooling configuration, which shows pattern differentials between the empirical and template atmospheric maps.  https://www.cyrusone.com/data-center-solutions/colocation , at 1:27;

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	 https://www.cyrusone.com/data-center-solutions/colocation , at 0:59;

U.S. Patent No. 6,854,287 – Infringement Claim Chart

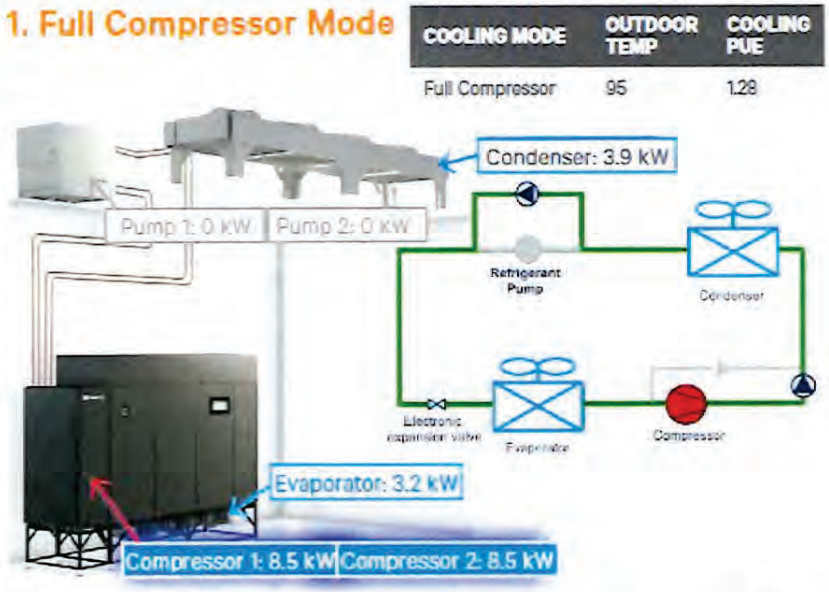
Claim 1	Exemplary Evidence of Infringement by CyrusOne
[1pre] A method for cooling a room configured to house a plurality of computer systems, said method comprising:	CyrusOne's data centers use a method for cooling a room configured to house a plurality of computer systems. For example, CyrusOne uses Vertiv (Liebert) CRAC units in each colocation data center. Liebert CRAC units are controlled by Liebert's iCOM Intelligent Communication and Monitoring system. **CIN99** **CyrusOne Data Center** **Cincinnati - Blue Ash** **4600 McAuley Place, 4th Floor** **Cincinnati, OH 45242** **Overview** • 15,000 sq. ft. data center/8,000 colocation raised floor • up to 600 kW available • 12 inch raised floor depth • 20 and 22 ton Liebert Downflow Chilled Water CRAC units https://documents.cyrusone.com/wp-content/uploads/2023/06/2022-CIN97_Cincinnati.pdf, p. 1.

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	Cooling • N+1 Cooling • Redundant DX and Glycol Chillers • Redundant raised floor CRAC units • 12in Raised floor https://documents.cyrusone.com/wp-content/uploads/2023/06/2022-CIN97_Cincinnati.pdf, p. 2.  https://www.vertiv.com/en-us/products/brands/liebert/

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	VERTIV™ Liebert® iCOM™ Thermal System Controls Greater Data Center Protection, Efficiency & Insight https://www.vertiv.com/49d637/globalassets/shared/liebert-icom-thermal-system-controls-brochure.pdf ("iCOM Brochure").

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	At the cooling unit level, the Liebert iCOM unit control provides the highest protection available and optimal performance • Monitors 360 unit and component points to eliminate single points of failure • Self-healing features avoid passing unsafe operating thresholds • Highly intuitive, full-color, touch screen simplifies operations to save time and reduce human error • Multiple, automated unit protection routines, including lead/lag, cascade, rapid restart, refrigerant protection and valve calibration **At the supervisory level,** the Liebert iCOM-S system control offers a revolutionary way to harmonize and optimize thermal system performance to optimize capacity across the data center, gain quick access to actionable data, and automate system diagnostics and trending • Advanced monitoring and at-a-glance reporting on performance metrics and trends for efficiency, capacity and adverse events • Up to 50% system efficiency gains • 30% lower deployment costs • Teamwork modes that prevent conflict between units and allow them to adapt to changes in facility and IT demand to improve efficiency and availability and reduce system wear and tear – saving more than $10,000 per unit per year in energy costs • Simple and easy to deploy — auto-configuration to detect and configure up to 4,800 sensors, eliminating the need for custom integration to building management systems and cutting sensor deployment times in half Liebert iCOM unit control and Liebert iCOM-S system control are available for new Vertiv™ data center cooling units or as retrofits iCOM Brochure at p. 3.
[1a] providing a plurality of heat exchanger units configured to receive air from said room and to deliver air to said room;	CyrusOne provides a plurality of heat exchanger units configured to receive air from said room and to deliver air to said room. For example, CyrusOne uses Liebert CRAC units which are heat exchangers that receive air from the room and deliver cool conditioned air to the room by transferring heat from the air to a fluid.

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	CIN99 **CyrusOne Data Center** **Cincinnati - Blue Ash** **4600 McAuley Place, 4th Floor** **Cincinnati, OH 45242** **Overview** • 15,000 sq. ft. data center/8,000 cold square feet (CSF) • Up to 900 kW available • 12-inch raised floor design • 20- and 30-ton Liquid Downflow Chilled Water CRAC units https://documents.cyrusone.com/wp-content/uploads/2023/06/2022-CIN97_Cincinnati.pdf, p. 1. **Cooling** • N+1 Cooling • Redundant DX and Glycol Chillers • Redundant raised floor CRAC units • 12in Raised floor https://documents.cyrusone.com/wp-content/uploads/2023/06/2022-CIN97_Cincinnati.pdf, p. 2.

Claim 1	Exemplary Evidence of Infringement by CyrusOne
[1b] supplying said plurality of heat exchanger units with cooling fluid from an air conditioning unit;	CyrusOne supplies said plurality of heat exchanger units with cooling fluid from an air conditioning unit. For example, CyrusOne uses Liebert's CRAC units which have an evaporator. Refrigerant cooling fluid flows through heat exchanger coils in evaporator.  https://www.vertiv.com/49f1fd/globalassets/products/thermal-management/room-cooling/liebert-dse-sales-brochure-sl-18927_00.pdf CyrusOne uses Liebert CRAC units which have a chilled water control valve. Chilled water cooling fluid flows through heat exchanger coils in evaporator.

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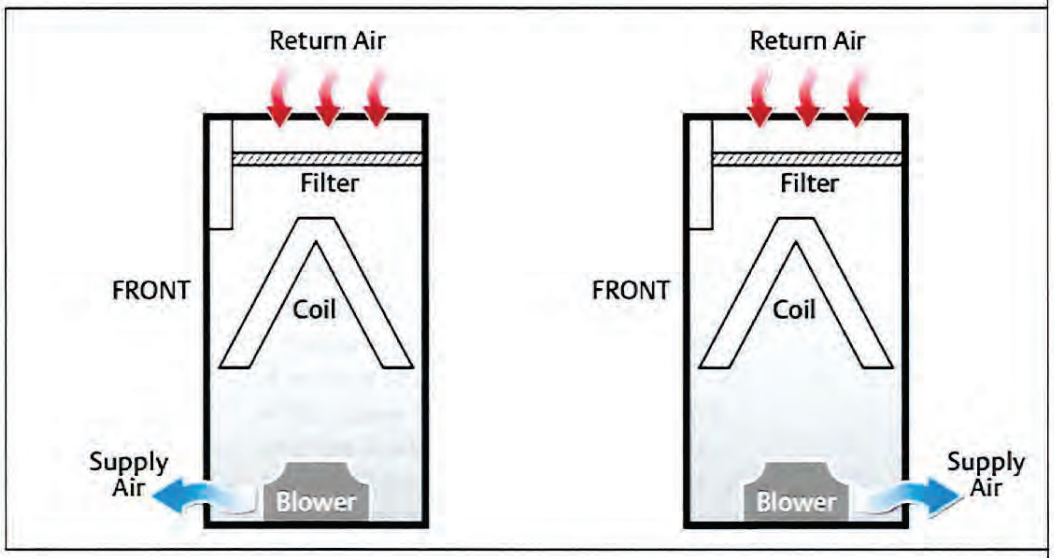
Chilled Water Control Valve

The chilled water valve provides proportional control action in response to room temperature and humidity as sensed by the microprocessor control. It includes operating linkage and electronic motor. Unlike other systems of this nature it requires no over-travel linkage or end switches to be adjusted. The control uses "intelligent logic" to eliminate valve hunting, thus greatly increasing the life of the valve. The valve can be a 3-way or 2-way to meet the appropriate requirements of the installed system.

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	https://www.vertiv.com/491dda/globalassets/products/thermal-management/room-cooling/liebert-cw-brochure.pdf.
[1c] cooling said received air through heat exchange with the cooling fluid in the plurality of heat exchanger units;	CyrusOne cools said received air through heat exchange with the cooling fluid in the plurality of heat exchanger units. For example, CyrusOne uses Liebert CRAC units to cool fluid (refrigerant) through the coil. The cooling fluid through the coil is chilled water/glycol. Liebert CRAC units receive the "return air" from the room and deliver cool conditioned "supply air" to the room, by transferring heat from the air to the cooling fluid within the coil. 

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	https://www.vertiv.com/4afe7d/globalassets/products/thermal-management/room-cooling/liebert-dse-80-165kw-23-43-tons-downflow-system-design-manual.pdf, pp. 3, 6.
[1d] sensing temperatures at one or more locations in said room;	CyrusOne senses temperatures at one or more locations in said room. For example, CyrusOne uses Liebert CRAC units and the Liebert CRAC unit control system senses temperatures at the supply sensor, remote sensor, or return sensor locations. **3.1.12 Automatic Fan Speed Control** Temperature sensors can control fan speed using one of three modes based on the type of sensor selected as the fan-control sensor: supply, return, or remote, see **Table 3.2** below. Control is based on the selected sensor for both fan control and temperature control and their setpoints as follows: • Coupled: The fan control and temperature control sensor selection is the same. When coupled, fan speed is determined by the temperature setpoints. • Decoupled: The fan control and temperature control sensor selection is different. When decoupled, fan speed is determined by the fan setpoints. **Table 3.2 Fan Speed Controlling Sensor Options** [illegible] https://www.vertiv.com/49b8b2/globalassets/shared/liebert-icom-user-manual_sl-31075.pdf, p. 45.

		Temperature Control Sensor Selected		
		Supply Sensor	Remote Sensor	Return Sensor
Fan Control Sensor Selected	Supply Sensor	Coupled	N/A	N/A
	Remote Sensor	Decoupled (Recommended)	Coupled	N/A
	Return Sensor	Decoupled	Decoupled	Coupled

Claim 1	Exemplary Evidence of Infringement by CyrusOne
[1e] controlling at least one of the temperature of said cooling fluid and said air delivery by said plurality of heat exchanger units to said room in response to said sensed temperatures at said one or more locations; and	CyrusOne controls at least one of the temperature of said cooling fluid and said air delivery by said plurality of heat exchanger units to said room in response to said sensed temperatures at said one or more locations. For example, CyrusOne uses Liebert CRAC units which have temperate sensors that control fan speed in response to sensed temperatures. **3.1.12 Automatic Fan Speed Control** Temperature sensors can control fan speed using one of three modes based on the type of sensor selected as the fan-control sensor: supply, return, or remote, see **Table 3.2** below. Control is based on the selected sensor for both fan control and temperature control and their setpoints as follows. • Coupled: The fan control and temperature control sensor selection is the same. When coupled, fan speed is determined by the temperature setpoints. • Decoupled: The fan control and temperature control sensor selection is different. When decoupled, fan speed is determined by the fan setpoints. **Table 3.2 Fan Speed Controlling Sensor Options** Temperature Control Sensor Selected: Supply Sensor / Remote Sensor / Return Sensor Fan Control Sensor Selected: Supply Sensor — Coupled / N/A / N/A Fan Control Sensor Selected: Remote Sensor — Decoupled (Recommended) / Coupled / N/A Fan Control Sensor Selected: Return Sensor — Decoupled / Decoupled / Coupled https://www.vertiv.com/49b8b2/globalassets/shared/liebert-icom-user-manual_sl-31075.pdf, p. 45. The Liebert cooling unit controls activates the flow of chilled water/glycol, and varies cooling capacity by adjusting a motorized ball valve.

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	7.1.4 Temperature Control with a Fluid Economizer When an economizer is installed, the cooling requirement (determined by the temperature proportional band) is addressed first by the economizer's secondary cooling. If the economizer cooling capacity is insufficient, the compressor(s) begin cooling to bring the room air temperature down to the temperature setpoint. The fluid economizer employs a motorized ball valve that controls the flow of chilled water/glycol to provide a cooling capacity from 0% to 100%. https://www.vertiv.com/49b8b2/globalassets/shared/liebert-icom-user-manual_sl-31075.pdf, p. 110.
[1f] wherein the step of controlling said air delivery by said plurality of heat exchanger units comprises individually manipulating a mass flow rate of the cooling fluid supplied to each of the plurality of heat exchanger units.	CyrusOne controls said air delivery by said plurality of heat exchanger units comprises individually manipulating a mass flow rate of the cooling fluid supplied to each of the plurality of heat exchanger units. For example, CyrusOne uses Liebert CRAC units which have Teamwork mode. Teamwork mode evaluates changes in the air temperature of the inlet, outlet, or supply temperature of the heat dissipating devices and adjusts one or more cooling units controls to provide the required cooling capacity. **6 Teamwork, Standby and Rotation for Cooling Units** U2U communication via private network and additional hardware (see U2U Networking on page 95) allows the following operating features for the cooling units: • Teamwork • Standby (Rotation) • Cascade https://www.vertiv.com/49b8b2/globalassets/shared/liebert-icom-user-manual_sl-31075.pdf, p. 99.

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	6.2.3 Teamwork Mode 1—Parallel Operation In Teamwork mode 1, fan speed and cooling capacity are ramped up in parallel, which means that all units operate identically. Teamwork mode 1 is best for small rooms with balanced heat loads. A master unit collects the controlling readings for temperature and humidity from all the operating (fan on) units in the group, then determines the average or worst-case reading, and sends operating instructions to efficiently distribute cooling capacity across available units. In Teamwork mode 1, most parameters are shared and, when set in any unit, are set in all units in the group. **6.2.4 Teamwork Mode 2—Independent Operation** Teamwork mode 2 works well for most applications, and best in large rooms with un-balanced heat loads by preventing units in a group from operating in opposing modes, some cooling and some heating. All temperature and humidity parameters are shared by the group. The master unit monitors all available unit-sensor readings and determines the demand for cooling, heating, humidification and dehumidification, then sends operating instructions to address the greatest demand. In Teamwork mode 2, the setpoints for all units must be identical. The proportional band, deadband, and related settings may differ by unit. Fan speed is modulated per unit. Rotation and cascading is not available, so expect uneven distribution of work hours. **6.2.5 Teamwork Mode 3—Optimized Aisle Operation** In Teamwork Mode 3, the fan speed for all units operates in parallel, which means fan speed operation is identical at each unit. However, cooling capacity operates independently for each unit. Teamwork mode 3 takes advantage of variable speed fan options and variable capacity component options to maintain rooms with an unbalanced load and to prevent units in a group from operating in opposing modes. All units operate in the same mode based on the average or worst case (maximum) readings from the unit sensors. A local control (cooling capacity supply sensor) provides input to manage and maintain the discharge-air temperature at each unit. In addition, fan speed and operation are controlled based on readings from the unit temperature or static pressure sensors to control air delivery to the cold aisle. https://www.vertiv.com/49b8b2/globalassets/shared/liebert-icom-user-manual_sl-31075.pdf, p. 102. The Liebert CRAC units also have standby mode. Standby mode evaluates changes in the air temperature of the inlet, outlet, or supply temperature of the heat dissipating devices and actives/de-actives one or more cooling units to provide the required cooling capacity.

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	6.3 Assigning Cooling Units to Standby (Lead/Lag) Standby assigns some units to operate while others are on standby, meaning a unit is idle but ready to become active in the event of an alarm condition in one of the operating units or based on a rotation schedule. When a unit is in standby mode, fan(s) are off and no cooling occurs. In multiple cooling unit systems, assigning units to standby lets you: • Configure redundancy in case of failure scenarios (standby). • Manage cooling unit run time (lead/lag). See Setting a Rotation Schedule on the next page . • Modulate for very low loads to full design load (to be temperature reactive) by cascading activation of standby units (configured when setting up teamwork mode). https://www.vertiv.com/49b8b2/globalassets/shared/liebert-icom-user-manual_sl-31075.pdf, p. 103.

U.S. Patent No. 7,339,490 – Infringement Claim Chart

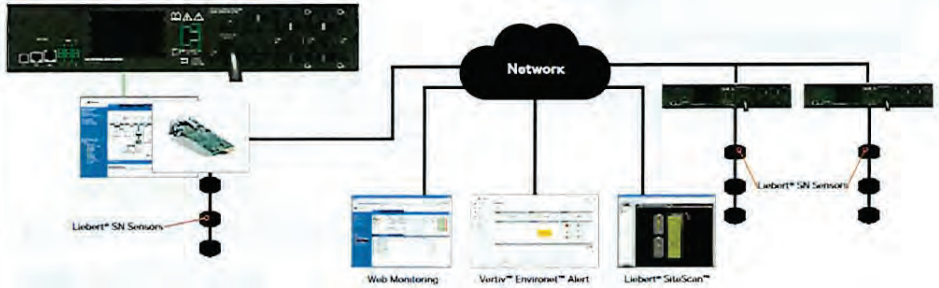
Claim 1	Exemplary Evidence of Infringement by CyrusOne
[1pre] A modular sensor assembly for sensing a condition at a computer rack, comprising:	CyrusOne's data centers use a modular sensor assembly for sensing a condition at a computer rack. For example, CyrusOne uses Vertiv and Liebert cooling in its U.S. data centers to control atmospheric conditions. On information and belief, CyrusOne's Liebert CRAC units are used in conjunction with Liebert's modular sensors, which are used to sense conditions such as temperature, humidity, and door-open status at a computer rack. CIN99 CyrusOne Data Center Cincinnati - Blue Ash 4600 McAuley Place, 4th Floor Cincinnati, OH 45242 Overview https://documents.cyrusone.com/wp-content/uploads/2023/06/2022-CIN97_Cincinnati.pdf, p. 1.

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	Cooling • N+1 Cooling • Redundant DX and Glycol Chillers • Redundant raised floor CRAC units • 12in Raised floor https://documents.cyrusone.com/wp-content/uploads/2023/06/2022-CIN97_Cincinnati.pdf, p. 2. VERTIV. Architects of Continuity ™ Products & Services Solutions Support About https://www.vertiv.com/en-us/products/brands/liebert/

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	LIEBERT® SN™ MODULAR SENSORS Quick Installation Guide VERTIV. The Liebert SN modular sensors monitor temperature, humidity, door-open status, and digital input, such as smoke or water in any area. These instructions apply to the following Liebert SN modular-sensor models: • SN-T—1 temperature probe • SN-TH—1 temperature probe and 1 humidity probe • SN-2D—1 door-switch probe with 2 inputs • SN-3C—1 digital-input probe with 3 inputs Each modular sensor ships with a 6.6-ft (2-m) cable to connect with a Liebert monitoring product. **SENSOR-STRING COMPATIBLE** You can attach the sensors in a Liebert Sensors, Cable and Mount

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	2. Assemble the sensor and bracket If using the supplied bracket and base: • Insert the support base into the end of the support. • Snap the sensor into the other end of the support. **3. Choose a mounting location** Keeping in mind that the temperature and humidity sensors require an unobstructed air flow, and that the sensor does not obstruct vents and impede air flow, select a mounting location. The installation parts needed for various mounting options are included with the sensor. You can install the sensor on rack rails, rack doors, and on a flat surface. **MOUNT THE SENSOR** Use the step appropriate to your chosen mounting method: **4. Mounting on a Knurr® Rack-frame or 19-in. Rail** Insert the quarter-turn, tool-less fastener a slot on the support or base, place the bracket on the frame or rail, and turn the fastener clockwise (1/4 turn) to secure the sensor in place. **5. Mounting on rack door** • On a Knurr rack (only), use the supplied screws through the slots on the support or use the quarter-turn fastener to secure the sensor to the door. • On all other racks (including Knurr), use cable ties to secure the sensor or support bracket to the door. **6. Mounting on a flat surface** Clean the mounting location with the supplied alcohol pad(s), then affix the sensor support to the surface using the supplied Dual Lock fasteners. **7. Mounting on a rack rail** This method requires a standard, pan-head rack screw, not supplied with the sensor. Use the pan-head rack screw through a slot on the sensor support or base to secure the sensor in place. **CONNECT THE SENSOR** The integrated cable connects to the SN Sensor port on your Liebert product. The Liebert SN sensor ports are RJ45 ports designated with the sensor-port icon. **NOTE:** *Only use the SN sensor port to connect Liebert SN sensors.* **CONFIGURE THE SENSOR** Using the sensor address recorded before installation, use the web user interface of your Liebert product to acknowledge the senor connection and configure parameters including labeling the sensor and setting thresholds for alarm/warning triggers. https://www.vertiv.com/49782f/globalassets/shared/liebert-sn-modular-sensors-quick-start-guide_00.pdf
[1a] a) an elongate flexible body, configured to attach to a computer rack;	CyrusOne's modular sensor assemblies comprise an elongate flexible body, configured to attach to a computer rack. CyrusOne uses Liebert CRAC units with Liebert sensors. Liebert modular sensors attached in a strong consist of an elongate flexible body that attaches to a computer rack frame, rail, or door.

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	SENSOR-STRING COMPATIBLE You can attach the sensors in a string, and the string can be a combination of integrated and modular sensors. (Integrated sensors are one or more probes integrated on a single cable.) A string may include up to 10 probes and be a maximum of 65.6 ft (20 m). The number of probes that may be used with Liebert monitoring products varies. Refer to the product's user guide for details. https://www.vertiv.com/49782f/globalassets/shared/liebert-sn-modular-sensors-quick-start-guide_00.pdf

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	Vertiv™ Liebert® SN Sensors VERTIV. Vertiv™ Liebert® GXT5 UPS  https://www.vertiv.com/4a84b9/globalassets/shared/liebert-sn-sensors-monitoring-for-business-critical-continuity2.pdf
[1b] b) a plurality of addressable sensors, disposed along the body and interconnected to a common connector wire; and	CyrusOne's modular sensor assemblies comprise a plurality of addressable sensors, disposed along the body and interconnected to a common connector wire. CyrusOne uses Liebert CRAC units with Liebert sensors. Liebert modular sensors are disposed along the body and interconnected to a common connector wire (string) and are addressable.

SENSOR-STRING COMPATIBLE

You can attach the sensors in a string, and the string can be a combination of integrated and modular sensors. (Integrated sensors are one or more probes integrated on a single cable.)

A string may include up to 10 probes and be a maximum of 65.6 ft (20 m).

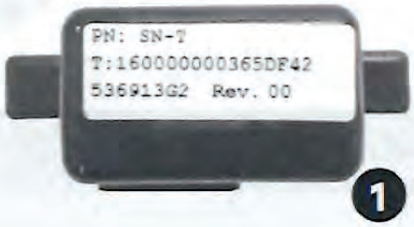
The number of probes that may be used with Liebert monitoring products varies. Refer to the product's user guide for details.

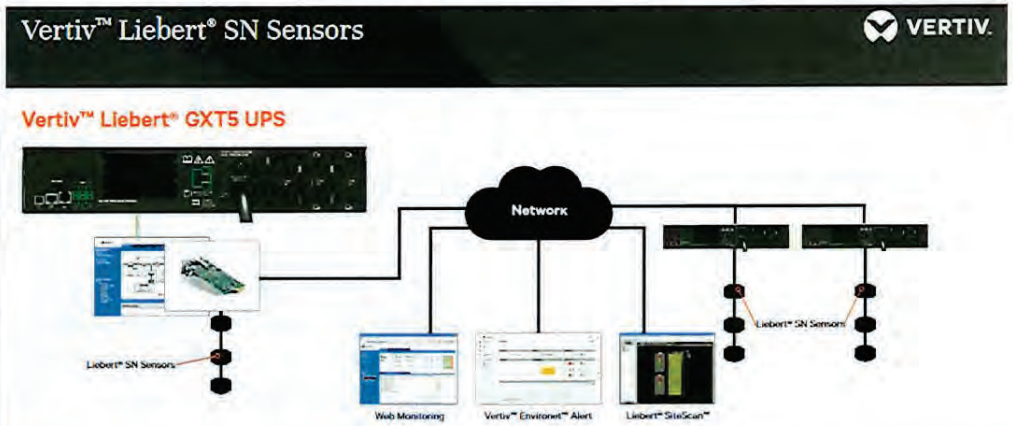
PREPARING FOR INSTALLATION

1. **Record the address of each sensor.**
   During configuration, the web user interface displays the addresses of all connected sensors.

   Before mounting or connecting, locate the sensor address on the sensor housing (see the picture on the following page) and record it.

Sensor Address

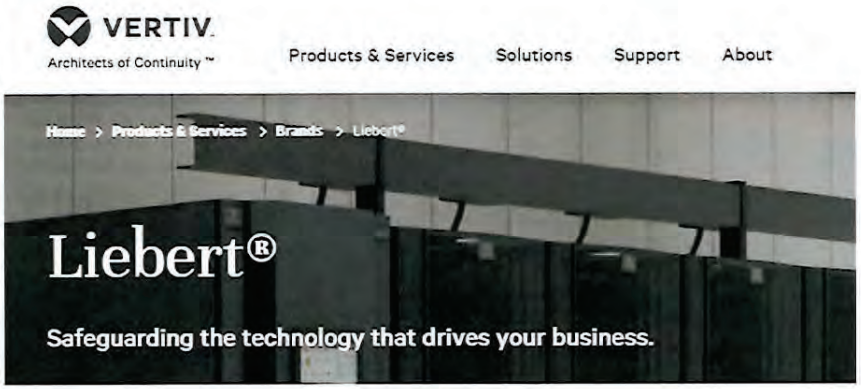


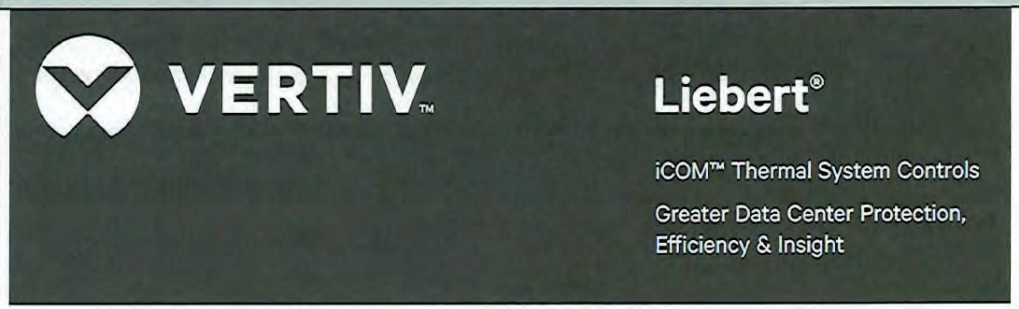
Claim 1	Exemplary Evidence of Infringement by CyrusOne
	https://www.vertiv.com/49782f/globalassets/shared/liebert-sn-modular-sensors-quick-start-guide_00.pdf
[1c] c) a connector wire lead, configured to interconnect the connector wire to a central system configured to receive and interpret data from the plurality of sensors relating to conditions associated with the computer rack.	CyrusOne's modular sensor assemblies comprise a connector wire lead, configured to interconnect the connector wire to a central system configured to receive and interpret data from the plurality of sensors relating to conditions associated with the computer rack. CyrusOne uses Liebert CRAC units with Liebert sensors. Liebert modular sensors string at each computer rack is interconnected to a central system (network) to receive and interpret the sensors from multiple computer racks. The networked sensor system is configured with thresholds for alarm and warning triggers.  https://www.vertiv.com/4a84b9/globalassets/shared/liebert-sn-sensors-monitoring-for-business-critical-continuity2.pdf

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	CONFIGURE THE SENSOR Using the sensor address recorded before installation, use the web user interface of your Liebert product to acknowledge the senor connection and configure parameters including labeling the sensor and setting thresholds for alarm/warning triggers. https://www.vertiv.com/49782f/globalassets/shared/liebert-sn-modular-sensors-quick-start-guide_00.pdf

U.S. Patent No. 7,031,870 – Infringement Claim Chart

Claim 1	Exemplary Evidence of Infringement by CyrusOne
[1pre] A method for evaluating one or more components in a data center, the method comprising:	CyrusOne's data centers use a method for evaluating one or more components in a data center. For example, CyrusOne uses Vertiv and Liebert cooling in its U.S. data centers to control atmospheric conditions. Liebert's CRAC units are controlled, for example, by Liebert's iCOM and/or iCOM-S Intelligent Communication and Monitoring System, which uses a method for evaluating one or more components in a data center. https://documents.cyrusone.com/wp-content/uploads/2023/06/2022-CIN97_Cincinnati.pdf, p. 1.

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	Cooling • N+1 Cooling • Redundant DX and Glycol Chillers • Redundant raised floor CRAC units • 12in Raised floor https://documents.cyrusone.com/wp-content/uploads/2023/06/2022-CIN97_Cincinnati.pdf, p. 2.  https://www.vertiv.com/en-us/products/brands/liebert/

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	 https://www.vertiv.com/49d637/globalassets/shared/liebert-icom-thermal-system-controls-brochure.pdf ("iCOM Brochure").

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	At the cooling unit level, the Liebert iCOM unit control provides the highest protection available and optimal performance • Monitors 380 unit and component points to eliminate single points of failure • Self-healing features avoid passing unsafe operating thresholds • Highly intuitive, full-color, touch screen simplifies operations to save time and reduce human error • Multiple, automated unit protection routines, including lead/lag, cascade rapid restart, refrigerant protection and valve calibration **At the supervisory level,** the Liebert iCOM-S system control offers a revolutionary way to harmonize and optimize thermal system performance to optimize capacity across the data center, gain quick access to actionable data, and automate system diagnostics and trending. • Advanced monitoring and at-a-glance reporting on performance metrics and trends for efficiency, capacity and adverse events • Up to 50% system efficiency gains • 30% lower deployment costs • Teamwork modes that prevent conflict between units and allow them to adapt to changes in facility and IT demand to improve efficiency and availability and reduce system wear and tear – saving more than $10,000 per unit per year in energy costs • Simple and easy to deploy — auto-configuration to detect and configure up to 4,800 sensors, eliminating the need for custom integration to building management systems and cutting sensor deployment times in half Liebert iCOM unit control and Liebert iCOM-S system control are available for new Vertiv™ data center cooling units or as retrofits. iCOM Brochure at p. 3.
[1a] detecting inlet and outlet temperatures of one or more heat dissipating devices;	CyrusOne detects inlet and outlet temperatures of one or more heat dissipating devices. CyrusOne uses Liebert iCOM. Liebert iCOM detects inlet and outlet temperatures at server racks using wired, remote rack sensors.

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	9.4 Wired Remote Sensors Wired, remote, rack sensors can function as control sensors and subsequently, provide input individually at the unit level or at the system level for temperature control and teamwork functions. Each wired remote rack sensor has two thermistors/probes. In Individual Sensor mode, the higher temperature reading or the average temperature reading of the two probes can be used. In Unit Sensors mode, some or all of the rack sensor's temperature readings are considered for higher (maximum) or average calculation. For example, setting three sensors as control and average for unit mode, averages the three highest temperature readings. https://www.vertiv.com/49b8b2/globalassets/shared/liebert-icom-user-manual_sl-31075.pdf ("iCOM Manual") at p. 156.
[1b] detecting temperatures of air supplied by one or more computer room air conditioning (CRAC) units;	CyrusOne detects temperatures of air supplied by one or more computer room air conditioning (CRAC) units. CyrusOne uses Liebert iCOM. Liebert iCOM detects temperatures of air supplied by one or more CRAC units. **13.4 Installing Supply Control Sensors** **13.4.1 Installing the Supply Air Temperature Sensor** The supply temperature sensor is connected to P8, Pins 1 and 2 at the factory and requires no configuration. 1. Place the sensor in an area that is influenced only by the unit to which it is connected to provide an accurate reading: 5 ft. to 15 ft. (1.5 m to 4.5 m) from the cooling unit, **Figure 13.16** below. iCOM Manual at p. 191.
[1c] calculating indices of air re-circulation for the one or more heat dissipating devices based upon the detected inlet temperatures, outlet temperatures and supplied air temperatures;	CyrusOne calculates indices of air re-circulation for the one or more heat dissipating devices based upon the detected inlet temperatures, outlet temperatures and supplied air temperatures. CyrusOne uses Liebert iCOM. Liebert iCOM calculates indices of air recirculation for server racks based on detected inlet, outlet, and supplied air temperatures.

Claim 1	Exemplary Evidence of Infringement by CyrusOne
	13.2 Installing Wired Remote Sensors Up to 10 remote sensor modules, installed in the monitored racks and connected to the cooling unit, provide control and reference input to iCOM and building-management systems. Using remote, rack sensors combats cooling problems related to recirculation air, uneven rack loading, and air distribution. iCOM Manual at p. 180. **13.1 Return Air Temperature/Humidity Sensor** The return temperature/humidity sensor is located in the unit return air section and is supplied on all Liebert®systems with iCOM™ controls. The assembly connects to plug connection P67 on the iCOM internal control board on all CRV systems. iCOM Manual at p. 179. **13.4 Installing Supply Control Sensors** **13.4.1 Installing the Supply Air Temperature Sensor** The supply temperature sensor is connected to P8, Pins 1 and 2 at the factory and requires no configuration. 1. Place the sensor in an area that is influenced only by the unit to which it is connected to provide an accurate reading: 5 ft. to 15 ft. (1.5 m to 4.5 m) from the cooling unit, **Figure 13.16** below. iCOM Manual at p. 191. **Temperature Control Sensor** Selects sensor that controls cooling. Values are: • Supply Sensor: Temperature control is based on maintaining the temperature of the discharge air from the cooling unit. See Supply Sensors on page 158. • Remote Sensor: Temperature control is based on the temperature reading(s) from wired remote/rack sensor(s). See Wired Remote Sensors on page 156. • Return Sensor: Temperature control is based on maintaining the temperature of the room air. • Customer input setpoint (remote alarm device)

<table>
<tr><th>Claim 1</th><th>Exemplary Evidence of Infringement by CyrusOne</th></tr>
<tr><td></td><td>iCOM Manual at p. 25.</td></tr>
<tr><td>[1d] varying a flow field setting of air delivered to the one or more heat dissipating devices;</td><td>CyrusOne varies a flow field setting of air delivered to the one or more heat dissipating devices.

CyrusOne uses Liebert iCOM. Liebert iCOM varies the flow field setting of air delivered to server racks by, for example, controlling fan speed.

3.1.12 Automatic Fan Speed Control

Temperature sensors can control fan speed using one of three modes based on the type of sensor selected as the fan-control sensor: supply, return, or remote, see Table 3.2 below. Control is based on the selected sensor for both fan control and temperature control and their setpoints as follows:

• Coupled: The fan control and temperature control sensor selection is the same. When coupled, fan speed is determined by the temperature setpoints.
• Decoupled: The fan control and temperature control sensor selection is different. When decoupled, fan speed is determined by the fan setpoints.

Table 3.2 Fan Speed Controlling Sensor Options
<table><tr><th colspan="2"></th><th colspan="3">Temperature Control Sensor Selected</th></tr><tr><th colspan="2"></th><th>Supply Sensor</th><th>Remote Sensor</th><th>Return Sensor</th></tr><tr><td rowspan="3">Fan Control Sensor Selected</td><td>Supply Sensor</td><td>Coupled</td><td>N/A</td><td>N/A</td></tr><tr><td>Remote Sensor</td><td>Decoupled (Recommended)</td><td>Coupled</td><td>N/A</td></tr><tr><td>Return Sensor</td><td>Decoupled</td><td>Decoupled</td><td>Coupled</td></tr></table>
iCOM Manual at p. 45.</td></tr>
<tr><td>[1e] determining whether the indices of air re-circulation has changed in response to the varied flow field settings; and</td><td>CyrusOne determines whether the indices of air re-circulation has changed in response to the varied flow field settings.

CyrusOne uses Liebert iCOM. Liebert iCOM determines whether the indices of air re-circulation have changed in response to varied flow field settings, by for example</td></tr>
</table>

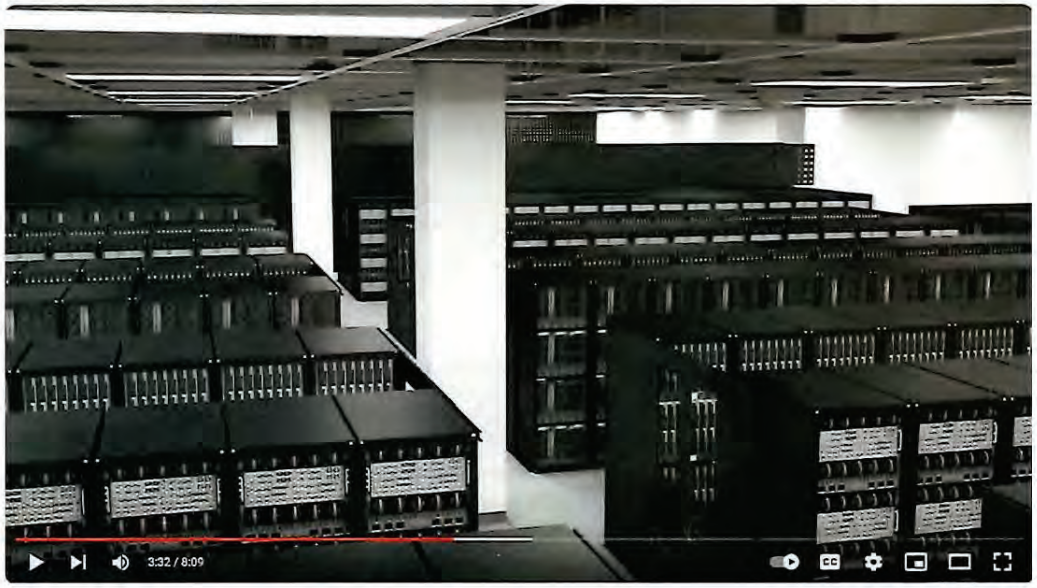
Claim 1	Exemplary Evidence of Infringement by CyrusOne
	changing the response to varying fan speeds based on the length of time temperature has deviated and the amount of deviation from the setpoint. **Temperature Integration Time** Adjusts amount of cooling/heating based on the length of time the temperature has deviated from the setpoint. The time selected is the amount of time it will take cooling capacity to reach 100%. For example, if three minutes is selected, cooling capacity will increase to 100% in three minutes. **NOTE: Three to five minutes of integration time is adequate for most applications. See Considerations when Using PI Temperature Control on page 28 .** **NOTE: Only used when Temperature Control Type is PI.** **Temperature Proportional Band** Adjusts the activation point of cooling/heating components based on deviation from setpoint by placing half of the selected value on each side of the temperature control setpoint. A smaller number causes faster reaction to temperature changes. **NOTE: Setting this too low causes short cycling of compressors.** iCOM Manual at p. 25.
[1f] evaluating the one or more components based upon changes in the indices of air re-circulation for the one or more heat dissipating devices at the various flow field settings.	CyrusOne evaluates the one or more components based upon changes in the indices of air re-circulation for the one or more heat dissipating devices at the various flow field settings. CyrusOne uses Liebert iCOM. Liebert iCOM evaluates the components based on changed in the indices of air re-circulation for the server racks at various flow field settings. For example, Teamwork Mode evaluates changes in the air temperature of the inlet, outlet, or supply temperature of the heat dissipating devices and adjusts one or more cooling units controls to provide the required cooling capacity, and Standby Mode evaluates these changes and activates/deactivates one or more CRAC units to provide required cooling capacity.

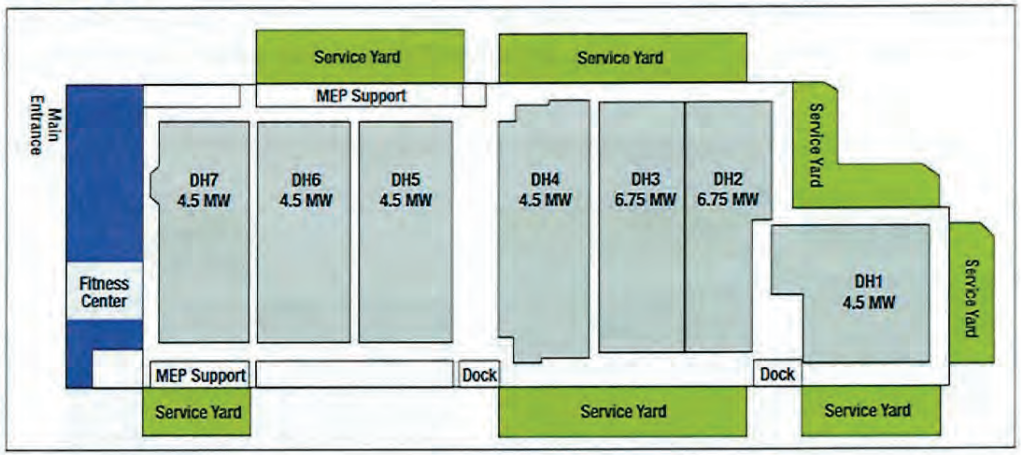
Claim 1	Exemplary Evidence of Infringement by CyrusOne
	6 Teamwork, Standby and Rotation for Cooling Units U2U communication via private network and additional hardware (see U2U Networking on page 95) allows the following operating features for the cooling units: • Teamwork • Standby (Rotation) • Cascade iCOM Manual at p. 99.

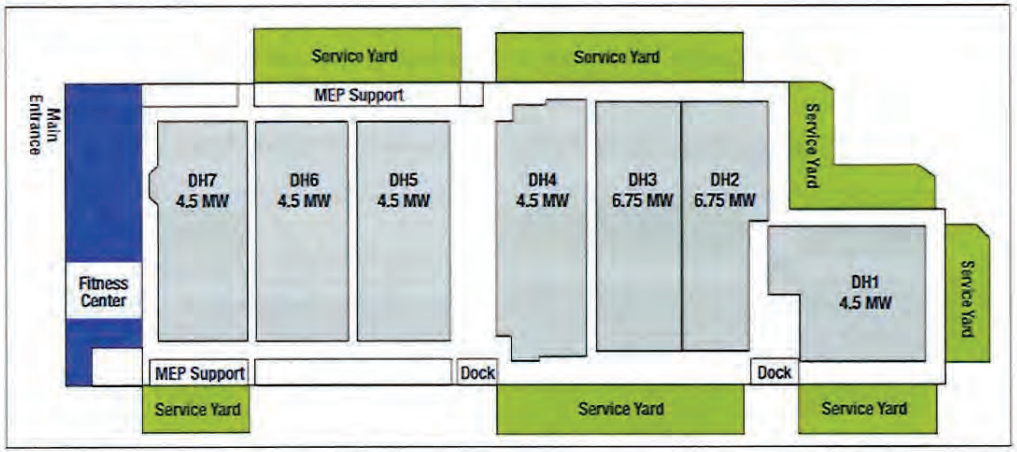
Claim 1	Exemplary Evidence of Infringement by CyrusOne
	6.2.3 Teamwork Mode 1—Parallel Operation In Teamwork mode 1, fan speed and cooling capacity are ramped up in parallel, which means that all units operate identically. Teamwork mode 1 is best for small rooms with balanced heat loads. A master unit collects the controlling readings for temperature and humidity from all the operating (fan on) units in the group, then determines the average or worst-case reading, and sends operating instructions to efficiently distribute cooling capacity across available units. In Teamwork mode 1, most parameters are shared and, when set in any unit, are set in all units in the group. **6.2.4 Teamwork Mode 2—Independent Operation** Teamwork mode 2 works well for most applications, and best in large rooms with un-balanced heat loads by preventing units in a group from operating in opposing modes, some cooling and some heating. All temperature and humidity parameters are shared by the group. The master unit monitors all available unit-sensor readings and determines the demand for cooling, heating, humidification and dehumidification, then sends operating instructions to address the greatest demand. In Teamwork mode 2, the setpoints for all units must be identical. The proportional band, deadband, and related settings may differ by unit. Fan speed is modulated per unit. Rotation and cascading is not available, so expect uneven distribution of work hours. **6.2.5 Teamwork Mode 3—Optimized Aisle Operation** In Teamwork Mode 3, the fan speed for all units operates in parallel, which means fan speed operation is identical at each unit. However, cooling capacity operates independently for each unit. Teamwork mode 3 takes advantage of variable speed fan options and variable capacity component options to maintain rooms with an unbalanced load and to prevent units in a group from operating in opposing modes. All units operate in the same mode based on the average or worst case (maximum) readings from the unit sensors. A local control (cooling capacity supply sensor) provides input to manage and maintain the discharge-air temperature at each unit. In addition, fan speed and operation are controlled based on readings from the unit temperature or static pressure sensors to control air delivery to the cold aisle. iCOM Manual at p. 102.

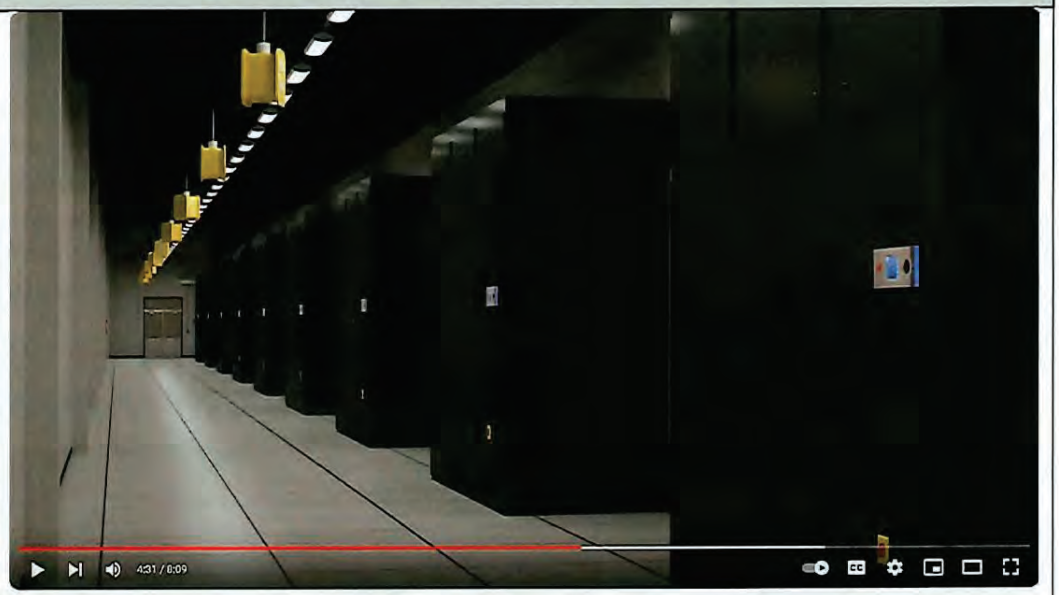
Claim 1	Exemplary Evidence of Infringement by CyrusOne
	6.3 Assigning Cooling Units to Standby (Lead/Lag) Standby assigns some units to operate while others are on standby, meaning a unit is idle but ready to become active in the event of an alarm condition in one of the operating units or based on a rotation schedule. When a unit is in standby mode, fan(s) are off and no cooling occurs. In multiple cooling unit systems, assigning units to standby lets you: • Configure redundancy in case of failure scenarios (standby). • Manage cooling unit run time (lead/lag). See Setting a Rotation Schedule on the next page . • Modulate for very low loads to full design load (to be temperature reactive) by cascading activation of standby units (configured when setting up teamwork mode). iCOM Manual at p. 103.

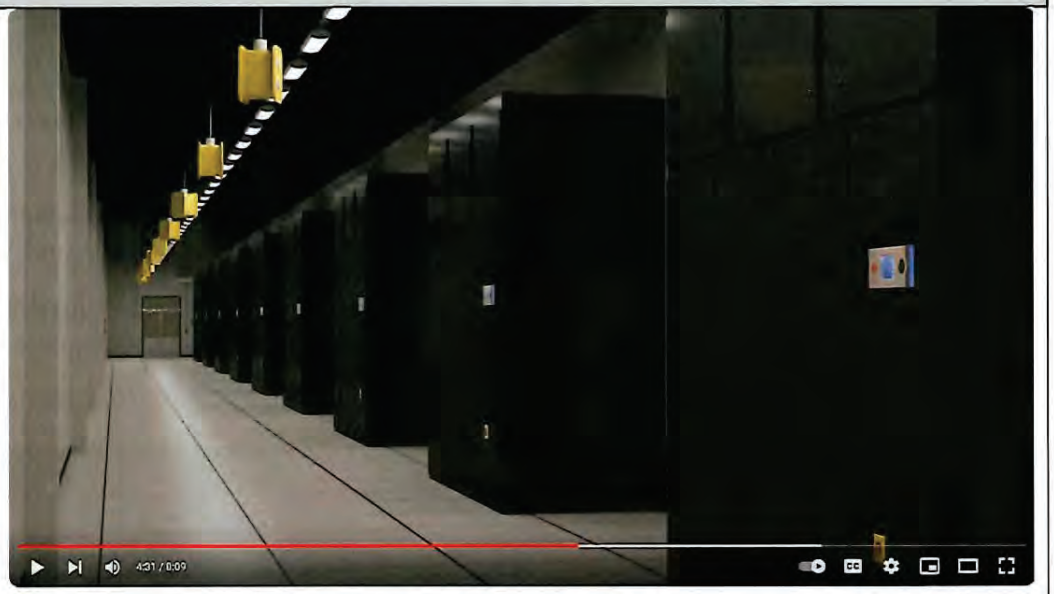
U.S. Patent No. 9,310,855 – Infringement Claim Chart

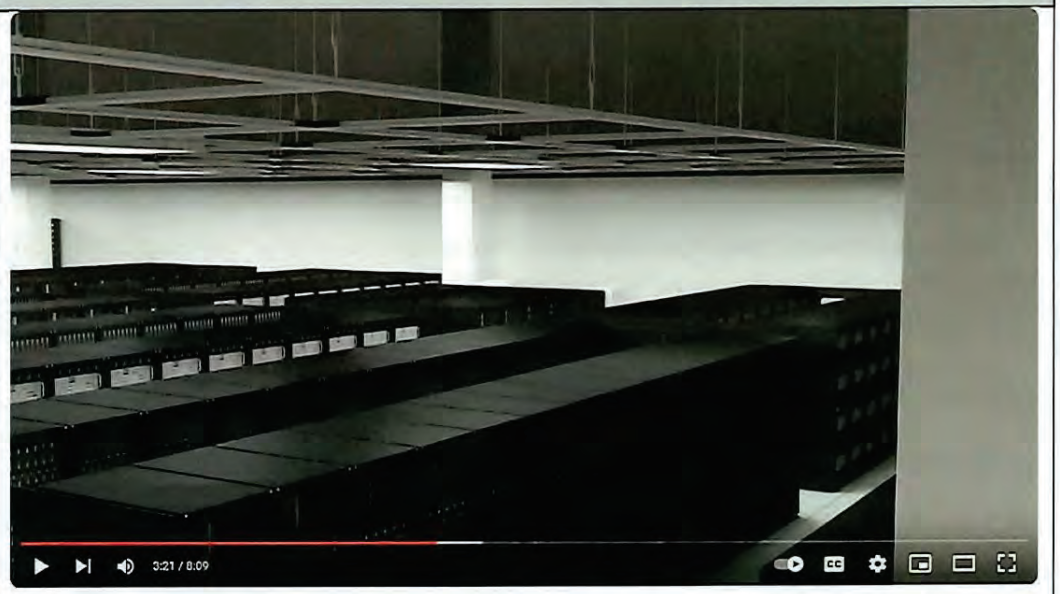
Claim Language	Exemplary Evidence of Infringement by CyrusOne
[8pre] A flexible data center including T rows of server racks, comprising:	CyrusOne uses flexible data centers including T rows of server racks comprising the elements below. For example, the virtual tour of CyrusOne DFW1 illustrates a portion of the total T rows of server racks.  https://www.youtube.com/watch?v=FjtRE8xy-tY at 3:32 minute mark. "Designed with CyrusOne's unique massively modular concept, including single purpose built dedicated facilities as well as shared infrastructure solutions, this data center enables customers to quickly scale their data center environment based on their changing IT demands."

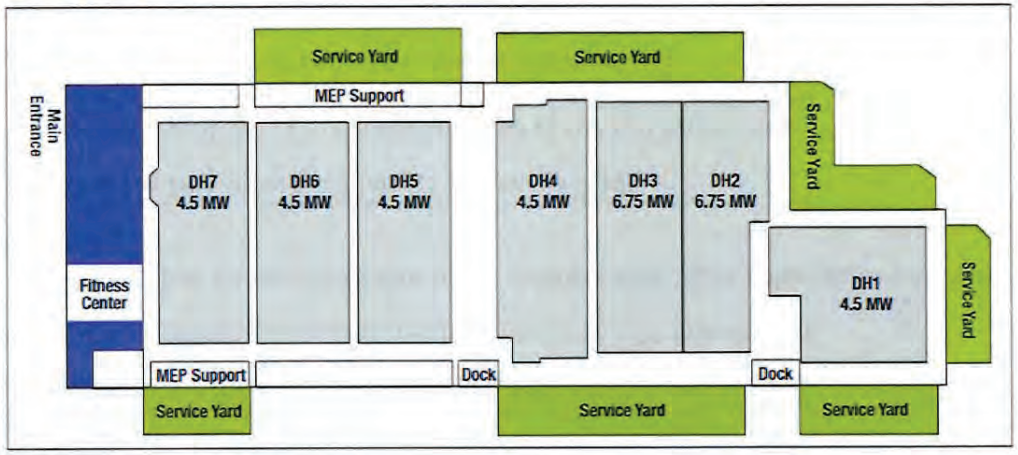
Claim Language	Exemplary Evidence of Infringement by CyrusOne
	Id. at 1:19-1:35.
[8a] a number B of blocks on a site, each block including:	CyrusOne has a number B of blocks on a site. For example, the DFW1 spec sheet illustrates B number of blocks on the site including DH1, DH2/3/4, and DH5/6/7. **Site Plan**  https://documents.cyrusone.com/wp-content/uploads/2023/06/2022-DFW1_Dallas-Carrollton.pdf
[8b] one to a number P of perimeter structures, wherein each perimeter structure houses up to a number R of rows of server racks; and	CyrusOne has one to a number P of perimeter structures, wherein each perimeter structure houses up to a number R of rows of server racks. For example, the DFW1 spec sheet shows P number of perimeter structures (DH1-7) which houses up to R rows of server racks.

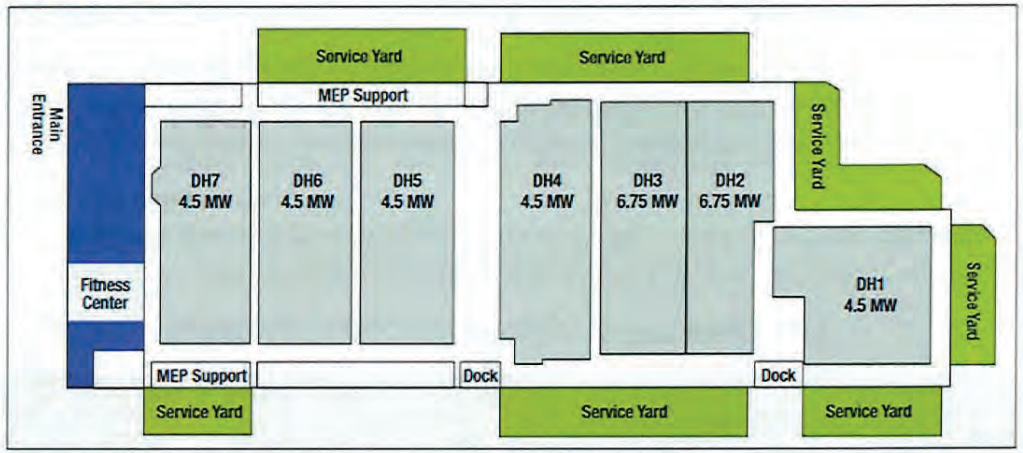
Claim Language	Exemplary Evidence of Infringement by CyrusOne
	Site Plan  https://documents.cyrusone.com/wp-content/uploads/2023/06/2022-DFW1_Dallas-Carrollton.pdf
[8c] a connecting structure connected to the number P of perimeter structures, wherein the connecting structure houses operations monitoring equipment for the server racks, and wherein the one to the number P of perimeter structures retain functionality independent of the connecting structure;	CyrusOne has a connecting structure connected to the number P of perimeter structures, wherein the connecting structure houses operations monitoring equipment for the server racks, and wherein the one to the number P of perimeter structures retain functionality independent of the connecting structure. For example, CyrusOne videos show the CRAH units are located in a connecting structure adjacent to the P perimeter structures. The connecting structure houses the CRAH cooling units and sensors that monitor environmental operating conditions for the server racks.

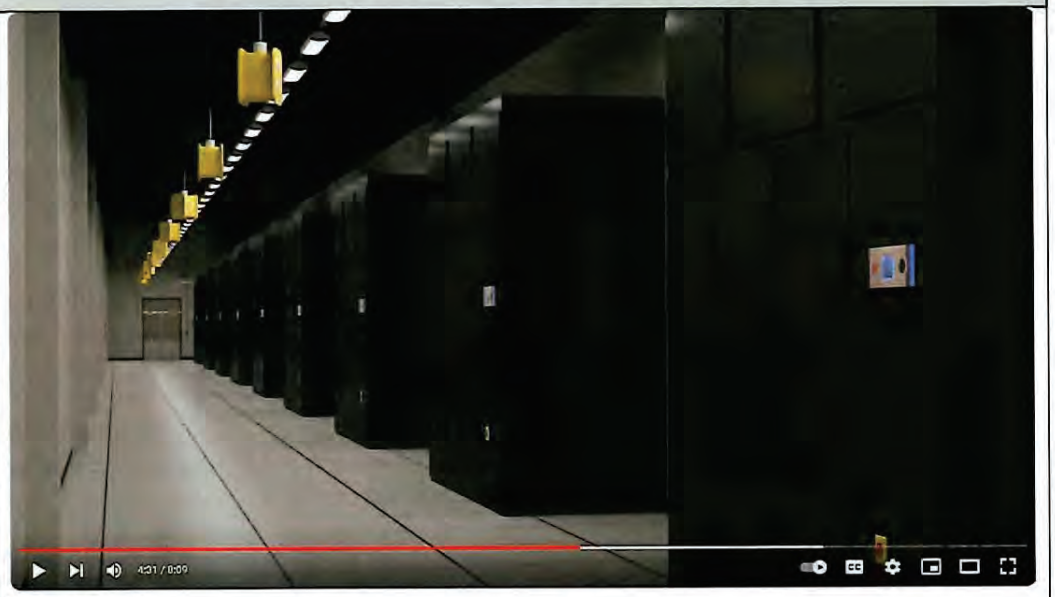
Claim Language	Exemplary Evidence of Infringement by CyrusOne
	 https://www.youtube.com/watch?v=FjtRE8xy-tY at 4:20 minute mark "Cooling of the data hall space is performed by highly efficient computer room air handling units that are separated from the data hall floor."
[8d] a total integer number T/R of perimeter structures comprising the number P of perimeter structures, wherein:	CyrusOne has a total integer number T/R of perimeter structures comprising the number P of perimeter structures. For example, the virtual tour of CyrusOne DFW1 illustrates a portion of the R rows of server racks within a perimeter structure P.

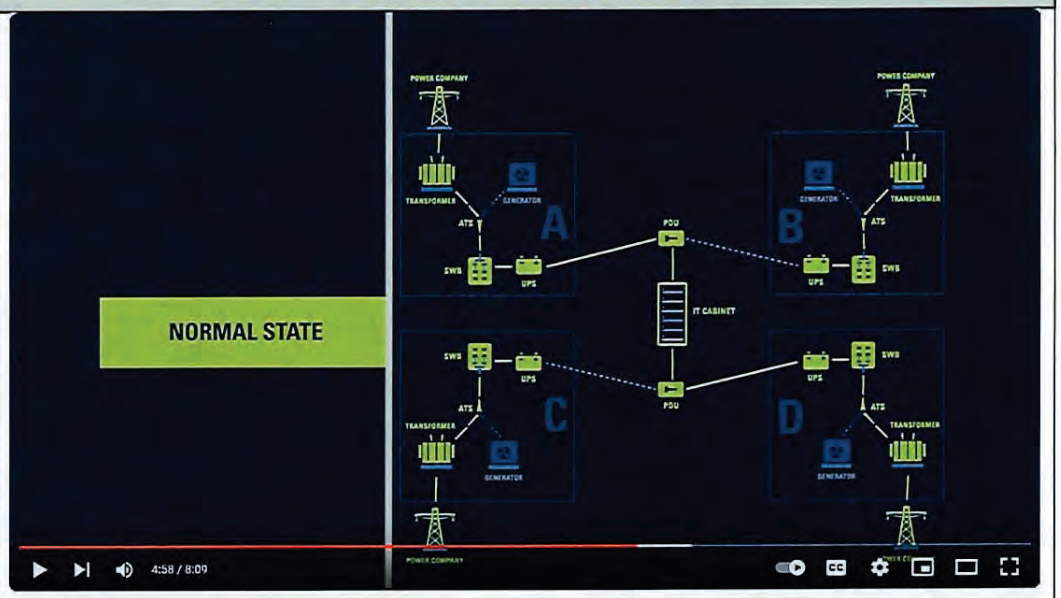
Claim Language	Exemplary Evidence of Infringement by CyrusOne
	 https://www.youtube.com/watch?v=FjtRE8xy-tY at 3:32 minute mark
[8e] at most one perimeter structure houses less than R rows of server racks;	CyrusOne has at most one perimeter structure houses less than R rows of server racks. For example, in order to provide a customized solution of cages or cabinets with a P perimeter structure, the initial number of cabinets within a P perimeter structure will be less than R (the maximum number of cabinet within a P perimeter structure). If customers within the P perimeter structure select cage space, there will be less room for total number of cabinets that can fit within the space.

Claim Language	Exemplary Evidence of Infringement by CyrusOne
	 https://www.youtube.com/watch?v=FjtRE8xy-tY at 3:21 minute mark. "CyrusOne offers a customized data center solution with cages, cabinets, or dedicated data hall."
[8f] B is equal to an integer number (T/R)/P; and	CyrusOne has B is equal to an integer number (T/R)/P. For example, in DFW1, T is the total number of rows of server racks, R is the number of rows of server racks that are within a P perimeter structure (each of DH1 through DH7). P is the number of perimeter structures (seven).

Claim Language	Exemplary Evidence of Infringement by CyrusOne
	Site Plan  https://documents.cyrusone.com/wp-content/uploads/2023/06/2022-DFW1_Dallas-Carrollton.pdf
[8g] at most one block includes less than P perimeter structures;	CyrusOne has at most one block includes less than P perimeter structures. For example, initial build would require a block to built with less than P perimeter structures. (e.g., DH2/DH3/DH4 block would be initially built with one or two P perimeter structures, with the third perimeter structure to be built out at a later time).

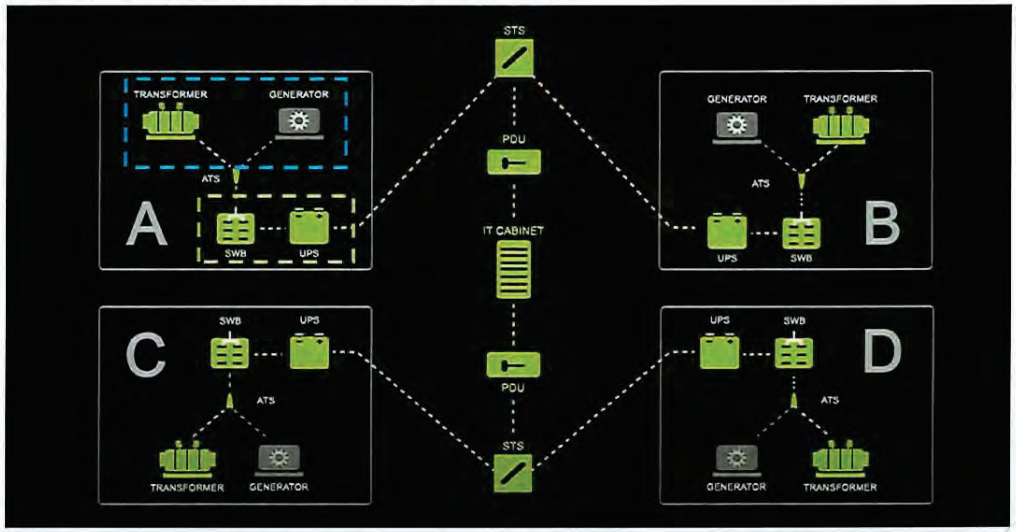
Claim Language	Exemplary Evidence of Infringement by CyrusOne
	Site Plan  https://documents.cyrusone.com/wp-content/uploads/2023/06/2022-DFW1_Dallas-Carrollton.pdf
[8h] a number of cooling units connected to an exterior of a respective perimeter structure, wherein a type of the number of cooling units is particular to a climate of the site; and	CyrusOne has a number of cooling units connected to an exterior of a respective perimeter structure, wherein a type of the number of cooling units is particular to a climate of the site. For example, CyrusOne's virtual tour shows the CRAH units are located in a connecting structure adjacent to the P perimeter structures. The connecting structure houses the CRAH cooling units and sensors that monitor environmental operating conditions for the server racks.

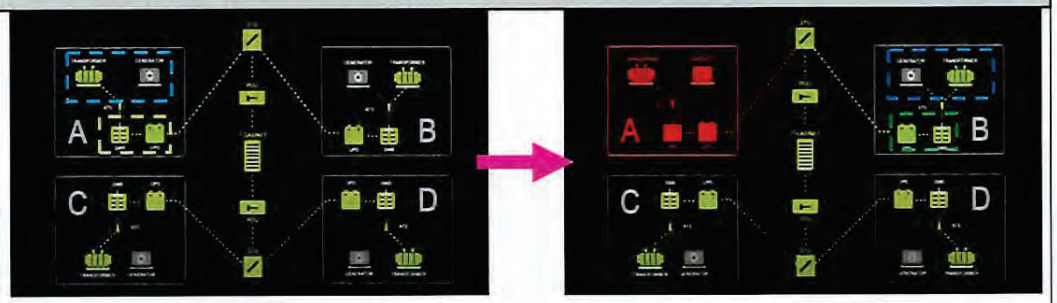
Claim Language	Exemplary Evidence of Infringement by CyrusOne
	 https://www.youtube.com/watch?v=FjtRE8xy-tY at 4:20 minute mark "Cooling of the data hall space is performed by highly efficient computer room air handling units that are separated from the data hall floor. This allows for optimization of the data hall environment."
[8i] a number of power conditioner units connected to the exterior of the respective perimeter structure, wherein a type of the number of power conditioner units is particular to a desired power quality and to the climate of the site.	CyrusOne has a number of power conditioner units connected to the exterior of the respective perimeter structure, wherein a type of the number of power conditioner units is particular to a desired power quality and to the climate of the site. For example, CyrusOne's virtual tours show the following information about power conditioner units.

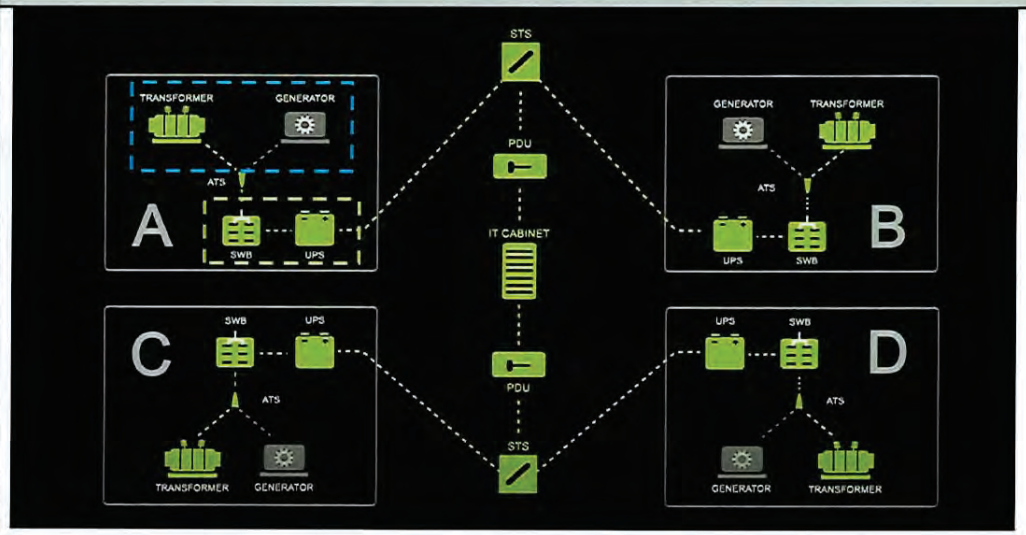
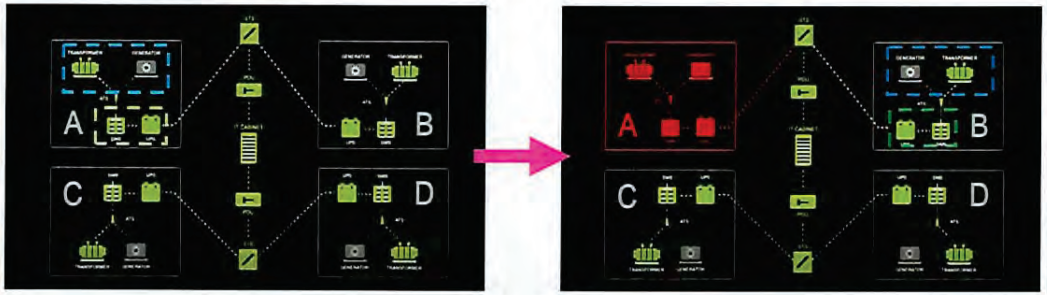
Claim Language	Exemplary Evidence of Infringement by CyrusOne
	 https://www.youtube.com/watch?v=FjtRE8xy-tY at 3:28 to 3:45, 4:58 minute mark "The distributed redundant power design is a meshed power system guaranteed to ensure maximum uptime." "Each data hall is designed for fully redundant power availability. The distributed redundant electrical design enables multiple levels of redundancy within the same data hall. Therefore, customers can choose their level of redundancy, either 2N, N+1 or N."

U.S. Patent No. 7,939,967 – Infringement Claim Chart

Claim Language	Exemplary Evidence of Infringement by CyrusOne
[1pre] An apparatus, comprising:	CyrusOne operates data centers with power redundancy by connecting equipment to redundant power supplies. "Of course, all of our chillers are on a redundant block system, meaning in the event of their failure or a power failure your equipment will continue to operate smoothly without interruption. With CyrusOne you have the peace of mind that your equipment is always operational."

Claim Language	Exemplary Evidence of Infringement by CyrusOne
	https://www.youtube.com/watch?app=desktop&v=jDKq617iWKo
[1a] a first power supply coupled to an electrical load and a first source of electrical energy, the first power supply configured to issue an alert signal indicative of a failure condition of the first source of electrical energy; and	CyrusOne data centers include a first power supply coupled to an electrical load and a first source of electrical energy, the first power supply configured to issue an alert signal indicative of a failure condition of the first source of electrical energy. For example, CyrusOne data centers offer power redundancy by connecting equipment to a redundant block system – sharing the electrical load over two power supplies with respective electrical power sources.  https://www.youtube.com/watch?app=desktop&v=jDKq617iWKo @1m42s. A first power supply of the will issue an alert if its electrical power source fails, this will signal the second power supply to transition from sharing to handing the full load – eliminating any potential downtime.

Claim Language	Exemplary Evidence of Infringement by CyrusOne
	 https://www.youtube.com/watch?app=desktop&v=jDKq617iWKo @ 1m41s and 1m46s.
[1b] a second power supply coupled to the electrical load and a second source of electrical energy, the second power supply configured to transition from a lesser output level to a greater output level in response to an activation signal.	CyrusOne data centers have a second power supply coupled to the electrical load and a second source of electrical energy, the second power supply configured to transition from a lesser output level to a greater output level in response to an activation signal. For example, CyrusOne data centers offer power redundancy by connecting equipment to a redundant block system – sharing the electrical load over two power supplies with respective electrical power sources.

Claim Language	Exemplary Evidence of Infringement by CyrusOne
	 https://www.youtube.com/watch?app=desktop&v=jDKq617iWKo @1m42s. A first power supply of the will issue an alert if its electrical power source fails, this will signal the second power supply to transition from sharing to handing the full load – eliminating any potential downtime. 

Claim Language	Exemplary Evidence of Infringement by CyrusOne
	https://www.youtube.com/watch?app=desktop&v=jDKq617iWKo @ 1m41s and 1m46s.

ORIGIN ID:PAOA (650) 623-1445
MATTHEW BERKOWITZ
RELCHMAN JORGENSEN LLP
100 MARINE PARKWAY SUITE 300
REDWOOD SHORES, CA 94065
UNITED STATES US

SHIP DATE: 29MAR24
ACTWGT: 1.00 LB
CAD: 113548163/INET4535

BILL SENDER

TO ROBERT M. JACKSON
CYRUSONE
2850 N HARWOOD STREET
SUITE 2200
DALLAS TX 75201
(650) 623-1445
INV:
PO:
REF: VALTRUS
DEPT:

583J2/8538/9AE3

FedEx Express

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MON - 01 APR 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7757 4759 4860

XA RFGA

TX-US DFW

75201

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EXHIBIT H

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELWARE

SAP America, Inc.	§	
	§	
Plaintiff	§	
	§	
v.	§	**CIVIL ACTION NO. 24-cv-54-GBW**
	§	
	§	**JURY TRIAL DEMANDED**
Valtrus Innovations Ltd. and Patent	§	
Platform Services, LLC	§	
	§	
Defendants.		

DECLARATION OF ANGELA QUINLAN IN SUPPORT OF DEFENDANTS' MOTION TO DISMISS OR TRANSFER

I, Angela Quinlan, declare as follows:

1. I make this declaration based upon my personal knowledge and my investigation of the facts below. If called as a witness, I could and would testify competently to the matters set forth herein. I submit this declaration in support of Defendants' Motion to Dismiss or Transfer pursuant to Rules 12(b)(2) and 12(b)(6) of the Federal Rules of Civil Procedure in the above-captioned action.

2. I have been the Managing Director of Valtrus Innovations, Ltd. ("Valtrus") since October 23, 2020. I am also Managing Director of Key Patent Innovations, Ltd. ("KPI"), which is Valtrus's parent entity. I reside in Wicklow, Ireland.

3. Valtrus is an Irish entity duly organized and existing under the laws of the Republic of Ireland. Valtrus's principal place of business is at The Glasshouses GH2, 92 Georges Street Lower, Dun Laoghaire, Dublin A96 VR66, Ireland. Valtrus is the successor-in-interest to a substantial portfolio of patents that it acquired in early 2021 from Hewlett-Packard Enterprise ("HPE").

4. Valtrus has no employees in the United States.

5. Valtrus is not registered to conduct business in Delaware; does not have a registered agent for service of process in Delaware; does not have offices, employees, board members, contractors, equipment, bank accounts, or other assets in Delaware; is not subject to and has never paid taxes in Delaware; does not manufacture or sell any products in Delaware; has never granted a post-acquisition license of any patent at issue in the above-captioned case to a company with a principal place of business in Delaware; has not conducted live, in-person meetings in Delaware concerning any of its patents; has not entered into Delaware for any business reason, including for the purpose of signing contracts; and does not own, lease, or rent any property in Delaware.

6. Valtrus has never filed a lawsuit in Delaware. Valtrus's only pending lawsuits in the United States are patent infringement litigations filed in Texas federal courts: (1) patent litigation by Valtrus against Google in the Northern District of Texas (3:22-cv-00066); (2) consolidated patent litigation by Valtrus against Verizon, T-Mobile, and OnePlus in the Eastern District of Texas (2:23-cv-00443 (lead case); (3) patent litigation by Valtrus against SAP SE and SAP America, Inc. in the Eastern District of Texas (2:24-cv-00021); (4) patent litigation by Valtrus against Digital Realty Trust, Inc. and Digital Realty Trust, L.P. in the Eastern District of Texas (2:24-cv-00139); and (5) patent litigation by Valtrus against Dawn Acquisitions LLC (d/b/a Evoque Data Center Solutions) in the Eastern District of Texas (2:24-cv-00142).

7. Valtrus is a wholly-owned subsidiary of KPI (another Irish entity having a principal place of business at The Glasshouses GH2, 92 Georges Street Lower, Dun Laoghaire, Dublin 6 A96 VR66, Ireland). KPI does not have employees in the United States.

8. KPI contracts with Patent Platform Services LLC ("PPS"), a Delaware entity with a principal place of business in Frisco, Texas, to provide patent licensing and consulting services to Valtrus.

9. In March 2022, I sent a letter to Mr. Christian Klein, CEO of SAP SE in Germany (which I understand to be the parent of SAP America, Inc.), which notified SAP of their patent infringement and provided a list of patents that Valtrus believed SAP infringed. That letter is attached as Exhibit G to the First Amended Complaint. D.I. 7. SAP did not respond. In September 2022, I sent a follow-up letter to Mr. Klein, again requesting a discussion regarding potential licensing terms. That letter is attached as Exhibit H to the First Amended Complaint. D.I. 7. From there, Valtrus, through PPS, continued discussions with SAP and presented evidence of infringement. No Valtrus or KPI employee had discussions with SAP in Delaware or, to Vatrus's knowledge, involved individuals residing in Delaware.

10. Valtrus also has not participated in any meetings with any of SAP's customers in Delaware.

12. All of Valtrus's patents were acquired from HPE, which is based in Texas, and all of the asserted patents in the above-capationed action are from the HPE portfolio.

13. Valtrus acknowledges, agrees and consents, based at least on the above facts, that personal jurisdiction over Valtrus in this matter would be proper in Texas.

* * *

I declare under penalty of perjury under the laws of the United States of America that the forging is true and correct.

/s/ Angela Quinlan
Angela Quinlan

JS 44 (Rev. 04/21) (TXND 4/21)

CIVIL COVER SHEET

The JS 44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. *(SEE INSTRUCTIONS ON NEXT PAGE OF THIS FORM.)*

I. (a) PLAINTIFFS

Vertiv Corporation

(b) County of Residence of First Listed Plaintiff _____
(EXCEPT IN U.S. PLAINTIFF CASES)

(c) Attorneys *(Firm Name, Address, and Telephone Number)*

William E. Davis III, 213 N. Fredonia St., Ste. 230, Longview, Texas 75601 903-230-9090

DEFENDANTS

Valtrus Innovations Limited

County of Residence of First Listed Defendant _____
(IN U.S. PLAINTIFF CASES ONLY)

NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE TRACT OF LAND INVOLVED.

Attorneys *(If Known)*

II. BASIS OF JURISDICTION *(Place an "X" in One Box Only)*

- [ ] 1 U.S. Government Plaintiff
- [x] 3 Federal Question *(U.S. Government Not a Party)*
- [ ] 2 U.S. Government Defendant
- [ ] 4 Diversity *(Indicate Citizenship of Parties in Item III)*

III. CITIZENSHIP OF PRINCIPAL PARTIES *(Place an "X" in One Box for Plaintiff and One Box for Defendant) (For Diversity Cases Only)*

	PTF	DEF		PTF	DEF
Citizen of This State	[ ] 1	[ ] 1	Incorporated *or* Principal Place of Business In This State	[ ] 4	[ ] 4
Citizen of Another State	[ ] 2	[ ] 2	Incorporated *and* Principal Place of Business In Another State	[ ] 5	[ ] 5
Citizen or Subject of a Foreign Country	[ ] 3	[ ] 3	Foreign Nation	[ ] 6	[ ] 6

IV. NATURE OF SUIT *(Place an "X" in One Box Only)* Click here for: Nature of Suit Code Descriptions.

CONTRACT
- [ ] 110 Insurance
- [ ] 120 Marine
- [ ] 130 Miller Act
- [ ] 140 Negotiable Instrument
- [ ] 150 Recovery of Overpayment & Enforcement of Judgment
- [ ] 151 Medicare Act
- [ ] 152 Recovery of Defaulted Student Loans (Excludes Veterans)
- [ ] 153 Recovery of Overpayment of Veteran's Benefits
- [ ] 160 Stockholders' Suits
- [ ] 190 Other Contract
- [ ] 195 Contract Product Liability
- [ ] 196 Franchise

REAL PROPERTY
- [ ] 210 Land Condemnation
- [ ] 220 Foreclosure
- [ ] 230 Rent Lease & Ejectment
- [ ] 240 Torts to Land
- [ ] 245 Tort Product Liability
- [ ] 290 All Other Real Property

TORTS

PERSONAL INJURY
- [ ] 310 Airplane
- [ ] 315 Airplane Product Liability
- [ ] 320 Assault, Libel & Slander
- [ ] 330 Federal Employers' Liability
- [ ] 340 Marine
- [ ] 345 Marine Product Liability
- [ ] 350 Motor Vehicle
- [ ] 355 Motor Vehicle Product Liability
- [ ] 360 Other Personal Injury
- [ ] 362 Personal Injury - Medical Malpractice

PERSONAL INJURY
- [ ] 365 Personal Injury - Product Liability
- [ ] 367 Health Care/ Pharmaceutical Personal Injury Product Liability
- [ ] 368 Asbestos Personal Injury Product Liability

PERSONAL PROPERTY
- [ ] 370 Other Fraud
- [ ] 371 Truth in Lending
- [ ] 380 Other Personal Property Damage
- [ ] 385 Property Damage Product Liability

CIVIL RIGHTS
- [ ] 440 Other Civil Rights
- [ ] 441 Voting
- [ ] 442 Employment
- [ ] 443 Housing/ Accommodations
- [ ] 445 Amer. w/Disabilities - Employment
- [ ] 446 Amer. w/Disabilities - Other
- [ ] 448 Education

PRISONER PETITIONS

Habeas Corpus:
- [ ] 463 Alien Detainee
- [ ] 510 Motions to Vacate Sentence
- [ ] 530 General
- [ ] 535 Death Penalty

Other:
- [ ] 540 Mandamus & Other
- [ ] 550 Civil Rights
- [ ] 555 Prison Condition
- [ ] 560 Civil Detainee - Conditions of Confinement

FORFEITURE/PENALTY
- [ ] 625 Drug Related Seizure of Property 21 USC 881
- [ ] 690 Other

LABOR
- [ ] 710 Fair Labor Standards Act
- [ ] 720 Labor/Management Relations
- [ ] 740 Railway Labor Act
- [ ] 751 Family and Medical Leave Act
- [ ] 790 Other Labor Litigation
- [ ] 791 Employee Retirement Income Security Act

IMMIGRATION
- [ ] 462 Naturalization Application
- [ ] 465 Other Immigration Actions

BANKRUPTCY
- [ ] 422 Appeal 28 USC 158
- [ ] 423 Withdrawal 28 USC 157

INTELLECTUAL PROPERTY RIGHTS
- [ ] 820 Copyrights
- [x] 830 Patent
- [ ] 835 Patent - Abbreviated New Drug Application
- [ ] 840 Trademark
- [ ] 880 Defend Trade Secrets Act of 2016

SOCIAL SECURITY
- [ ] 861 HIA (1395ff)
- [ ] 862 Black Lung (923)
- [ ] 863 DIWC/DIWW (405(g))
- [ ] 864 SSID Title XVI
- [ ] 865 RSI (405(g))

FEDERAL TAX SUITS
- [ ] 870 Taxes (U.S. Plaintiff or Defendant)
- [ ] 871 IRS—Third Party 26 USC 7609

OTHER STATUTES
- [ ] 375 False Claims Act
- [ ] 376 Qui Tam (31 USC 3729(a))
- [ ] 400 State Reapportionment
- [ ] 410 Antitrust
- [ ] 430 Banks and Banking
- [ ] 450 Commerce
- [ ] 460 Deportation
- [ ] 470 Racketeer Influenced and Corrupt Organizations
- [ ] 480 Consumer Credit (15 USC 1681 or 1692)
- [ ] 485 Telephone Consumer Protection Act
- [ ] 490 Cable/Sat TV
- [ ] 850 Securities/Commodities/ Exchange
- [ ] 890 Other Statutory Actions
- [ ] 891 Agricultural Acts
- [ ] 893 Environmental Matters
- [ ] 895 Freedom of Information Act
- [ ] 896 Arbitration
- [ ] 899 Administrative Procedure Act/Review or Appeal of Agency Decision
- [ ] 950 Constitutionality of State Statutes

V. ORIGIN *(Place an "X" in One Box Only)*

- [x] 1 Original Proceeding
- [ ] 2 Removed from State Court
- [ ] 3 Remanded from Appellate Court
- [ ] 4 Reinstated or Reopened
- [ ] 5 Transferred from Another District *(specify)*
- [ ] 6 Multidistrict Litigation - Transfer
- [ ] 8 Multidistrict Litigation - Direct File

VI. CAUSE OF ACTION

Cite the U.S. Civil Statute under which you are filing *(Do not cite jurisdictional statutes unless diversity)*:
28 U.S.C. §§ 2201 and 2202

Brief description of cause:
Declaratory Judgement

VII. REQUESTED IN COMPLAINT: [ ] CHECK IF THIS IS A CLASS ACTION UNDER RULE 23, F.R.Cv.P. **DEMAND $** CHECK YES only if demanded in complaint: **JURY DEMAND:** [x] Yes [ ] No

VIII. RELATED CASE(S) IF ANY *(See instructions)*: JUDGE Honorable Rodney Gilstrap DOCKET NUMBER See attachment A

DATE May 14, 2024

SIGNATURE OF ATTORNEY OF RECORD /s/ William E. Davis III

FOR OFFICE USE ONLY

RECEIPT # _____ AMOUNT _____ APPLYING IFP _____ JUDGE _____ MAG. JUDGE _____

INSTRUCTIONS FOR ATTORNEYS COMPLETING CIVIL COVER SHEET FORM JS 44

Authority For Civil Cover Sheet

The JS 44 civil cover sheet and the information contained herein neither replaces nor supplements the filings and service of pleading or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. Consequently, a civil cover sheet is submitted to the Clerk of Court for each civil complaint filed. The attorney filing a case should complete the form as follows:

I.(a) **Plaintiffs-Defendants.** Enter names (last, first, middle initial) of plaintiff and defendant. If the plaintiff or defendant is a government agency, use only the full name or standard abbreviations. If the plaintiff or defendant is an official within a government agency, identify first the agency and then the official, giving both name and title.

(b) **County of Residence.** For each civil case filed, except U.S. plaintiff cases, enter the name of the county where the first listed plaintiff resides at the time of filing. In U.S. plaintiff cases, enter the name of the county in which the first listed defendant resides at the time of filing. (NOTE: In land condemnation cases, the county of residence of the "defendant" is the location of the tract of land involved.)

(c) **Attorneys.** Enter the firm name, address, telephone number, and attorney of record. If there are several attorneys, list them on an attachment, noting in this section "(see attachment)".

II. **Jurisdiction.** The basis of jurisdiction is set forth under Rule 8(a), F.R.Cv.P., which requires that jurisdictions be shown in pleadings. Place an "X" in one of the boxes. If there is more than one basis of jurisdiction, precedence is given in the order shown below.
United States plaintiff. (1) Jurisdiction based on 28 U.S.C. 1345 and 1348. Suits by agencies and officers of the United States are included here.
United States defendant. (2) When the plaintiff is suing the United States, its officers or agencies, place an "X" in this box.
Federal question. (3) This refers to suits under 28 U.S.C. 1331, where jurisdiction arises under the Constitution of the United States, an amendment to the Constitution, an act of Congress or a treaty of the United States. In cases where the U.S. is a party, the U.S. plaintiff or defendant code takes precedence, and box 1 or 2 should be marked.
Diversity of citizenship. (4) This refers to suits under 28 U.S.C. 1332, where parties are citizens of different states. When Box 4 is checked, the citizenship of the different parties must be checked. (See Section III below**; NOTE: federal question actions take precedence over diversity cases.**)

III. **Residence (citizenship) of Principal Parties.** This section of the JS 44 is to be completed if diversity of citizenship was indicated above. Mark this section for each principal party.

IV. **Nature of Suit.** Place an "X" in the appropriate box. If there are multiple nature of suit codes associated with the case, pick the nature of suit code that is most applicable. Click here for: Nature of Suit Code Descriptions.

V. **Origin.** Place an "X" in one of the seven boxes.
Original Proceedings. (1) Cases which originate in the United States district courts.
Removed from State Court. (2) Proceedings initiated in state courts may be removed to the district courts under Title 28 U.S.C., Section 1441.
Remanded from Appellate Court. (3) Check this box for cases remanded to the district court for further action. Use the date of remand as the filing date.
Reinstated or Reopened. (4) Check this box for cases reinstated or reopened in the district court. Use the reopening date as the filing date.
Transferred from Another District. (5) For cases transferred under Title 28 U.S.C. Section 1404(a). Do not use this for within district transfers or multidistrict litigation transfers.
Multidistrict Litigation – Transfer. (6) Check this box when a multidistrict case is transferred into the district under authority of Title 28 U.S.C. Section 1407.
Multidistrict Litigation – Direct File. (8) Check this box when a multidistrict case is filed in the same district as the Master MDL docket. **PLEASE NOTE THAT THERE IS NOT AN ORIGIN CODE 7.** Origin Code 7 was used for historical records and is no longer relevant due to changes in statute.

VI. **Cause of Action.** Report the civil statute directly related to the cause of action and give a brief description of the cause. **Do not cite jurisdictional statutes unless diversity.** Example: U.S. Civil Statute: 47 USC 553 Brief Description: Unauthorized reception of cable service.

VII. **Requested in Complaint.** Class Action. Place an "X" in this box if you are filing a class action under Rule 23, F.R.Cv.P.
Demand. In this space enter the actual dollar amount being demanded or indicate other demand, such as a preliminary injunction.
Jury Demand. Check the appropriate box to indicate whether or not a jury is being demanded.

VIII. **Related Cases.** This section of the JS 44 is used to reference related cases, if any. If a related case exists, whether pending or closed, insert the docket numbers and the corresponding judge names for such cases. A case is related to this filing if the case: 1) involves some or all of the same parties and is based on the same or similar claim; 2) involves the same property, transaction, or event; 3) involves substantially similar issues of law and fact; and/or 4) involves the same estate in a bankruptcy appeal.

Date and Attorney Signature. Date and sign the civil cover sheet.

CIVIL COVER SHEET ATTACHMENT A

RELATED CASES	
JUDGE	**DOCKET NUMBER**
Honorable Rodney Gilstrap	2:24-cv-139 (Consolidated Member Case in 2:24-cv-142)
Honorable Rodney Gilstrap	2:24-cv-142 (Lead Case)
Honorable Rodney Gilstrap	2:24-cv-259
Honorable Rodney Gilstrap	2:24-cv-361