



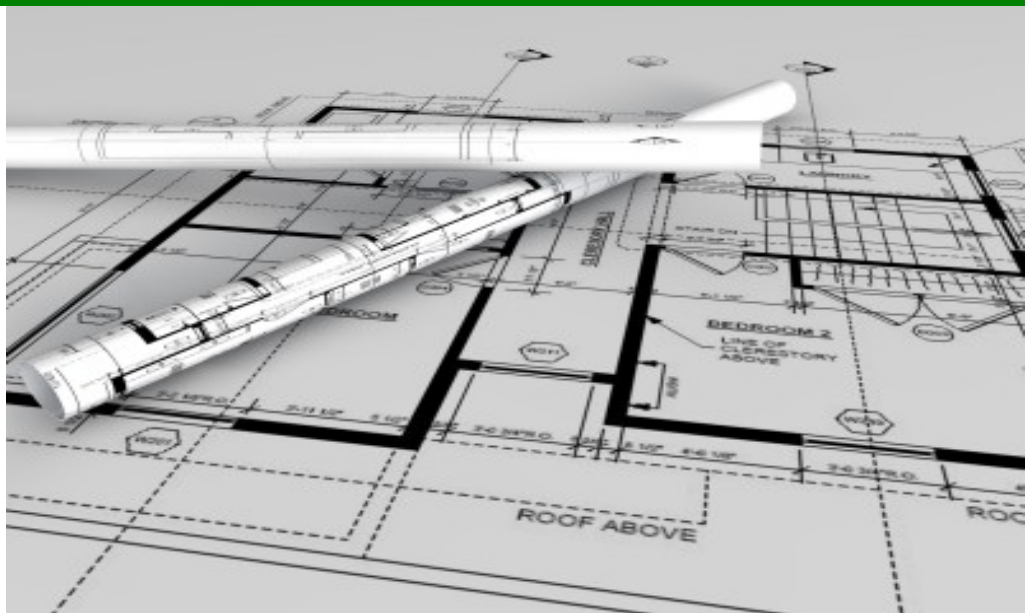
# PRASA DATA CENTER SOLUTIONS



Erecting state of the Art  
Data Centers

- CIVIL WORKS
- INSULATIONS
- ELECTRICAL WORKS
- AC POWER SOLUTIONS
- CAPTIVE POWER
- SURGE SUPPRESSORS
- COOLING SOLUTIONS
- ENCLOSURES
- SERVERS & SWITCHES
- FIRE & SECURITY SOLUTIONS
- MONITORING SOFTWARES
- SERVICES
- CONSULTANCY

- ◆ **BUSINESS NEED**
- ◆ **DETERMINE IT PARAMETERS**
  - Criticality
  - Capacity
  - Growth Plan
- ◆ **DEVELOP SYSTEM CONCEPT**
  - Reference Design
  - Room Dimension
- ◆ **DETERMINE USER REQUIREMENTS**
  - Refine Preferences
  - Refine Constraints
- ◆ **GENERATE SPECIFICATIONS**
  - Complete Design Specs
- ◆ **GENERATE DETAILED DESIGN**
- ◆ **TO BUILD PHASE**



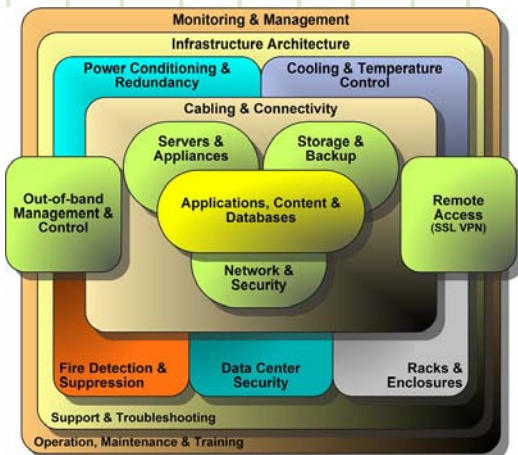
## DATA CENTER DESIGN PHASE

the most essential and critical phase in a data center project

The 10 Qs before deciding to go for a Data Center:

1. How big is Big Enough?
2. How much availability do I really need?
3. How much Energy will I actually need?
4. What about Green?
5. How long should it last?
6. Are all applications created equal?
7. What are the latest design trends in the market?
8. What about DRC?
9. Where should I invest the majority of my budget?
10. Who will build it– what should I ask him first?

The well experienced team at PRASA answers all the above questions with the help of customer IT heads and gives a detailed report of why a data center is needed, what are the minimum requirements of the datacenter, what best practices can we undertake for our data center and how can you go ahead of with the implementation.



# THE TIERS OF DATA CENTER

## Tier 1

- Typically Small businesses.
- 99.671% Availability
- Total down time of 28.8 hours / annum.
- Single Path of Power & Cooling
- No redundant components

## Tier 2

- Medium Size businesses.
- 99.749% Availability
- Total down time of 22 hours / annum.
- Single path of Power & Cooling
- Some redundancy in Power & Cooling

## Tier 3

- Large Companies
- 99.982% Availability
- Total down time of 1.6 hours / annum
- Multiple Power and Cooling path.
- Fault Tolerant (N+1 config.)
- Able to sustain 72 hours of power outage

## Tier 4

- Multi-million dollar business.
- 99.995% Availability
- Total down time of 0.04 hours / annum
- 2 Independent utility paths.
- Full redundant (2N+1 config.)
- Able to sustain 96 hours of power outage



LIEBERT PEX PRECISION AC



LIEBERT SUPER 400D UPS SYSTEM

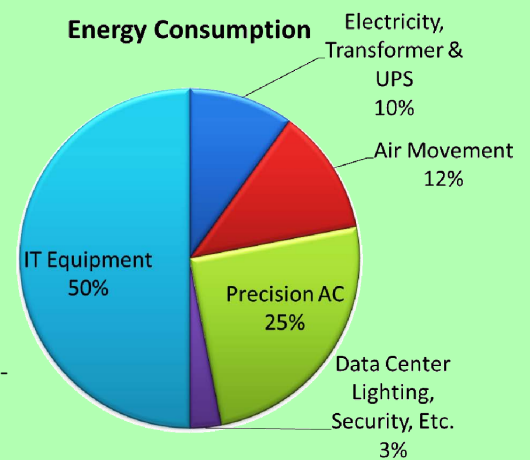
## POWER & AIR SOLUTIONS WITH RESPECT TO TIER OF DATA CENTER

In accordance to the tier of data center we design and scale the Power need of the same. Being an Enterprise Business Partner with Emerson Network Power enables PRASA to offer the best in class UPS systems which are scalable and redundant. True on-line, double conversion, three-phase UPS system with Softscale™ technology that provides a scalable solution for growing data centers. The UPS allows growth from 20 to 60 to 80 kVA, and from 80 to 100 to 120 kVA.



ENERGY EFFICIENCY, MORE IMPORTANT THAN EVER BEFORE

Do you know your data center consumes more than 35% of the total energy utilized by the DC. The Liebert PEX is the ideal PAC with maximum efficiency and minimum energy consumption. Each component that goes inside the Liebert PEX is designed manufactured and tested to ensure that it will contribute to its overall efficiency.



## Benefits of using Smart Row Solution

- ◆ It is fully integrated standalone system that don't require expensive room upgrades.
- ◆ Simplicity in design and deployment so system can be up and running quickly and easily expandable as needed
- ◆ Intelligent datacenter management through web.
- ◆ Integrated monitoring and control to optimize efficiency in planning and management
- ◆ Integrated Fire Suppression system
- ◆ High efficiency dedicated cooling
- ◆ Higher operational, space and energy efficiency
- ◆ Solution is easily serviceable as design permits easy dismantling & reassembling of solution

## SMART SOLUTIONS

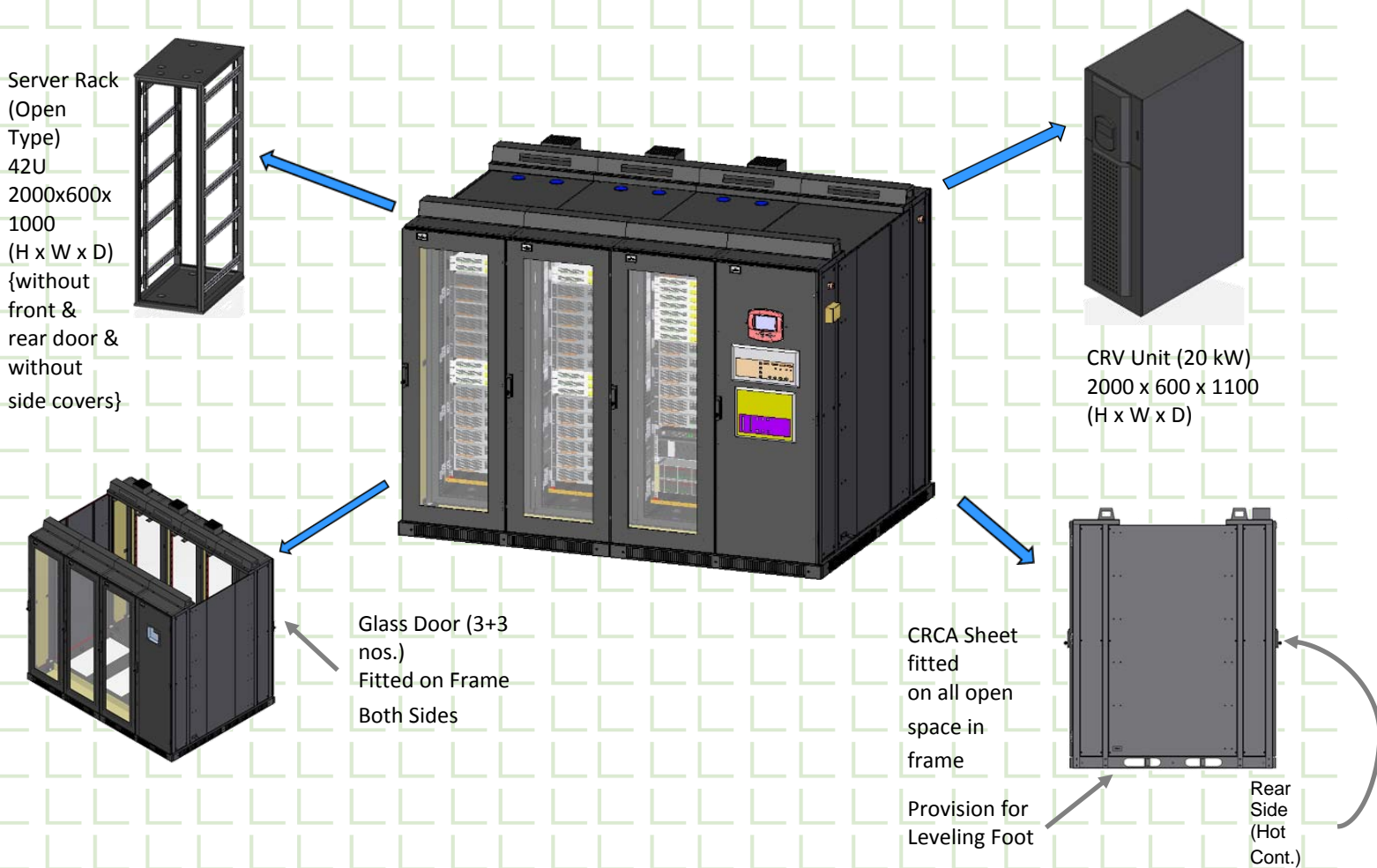
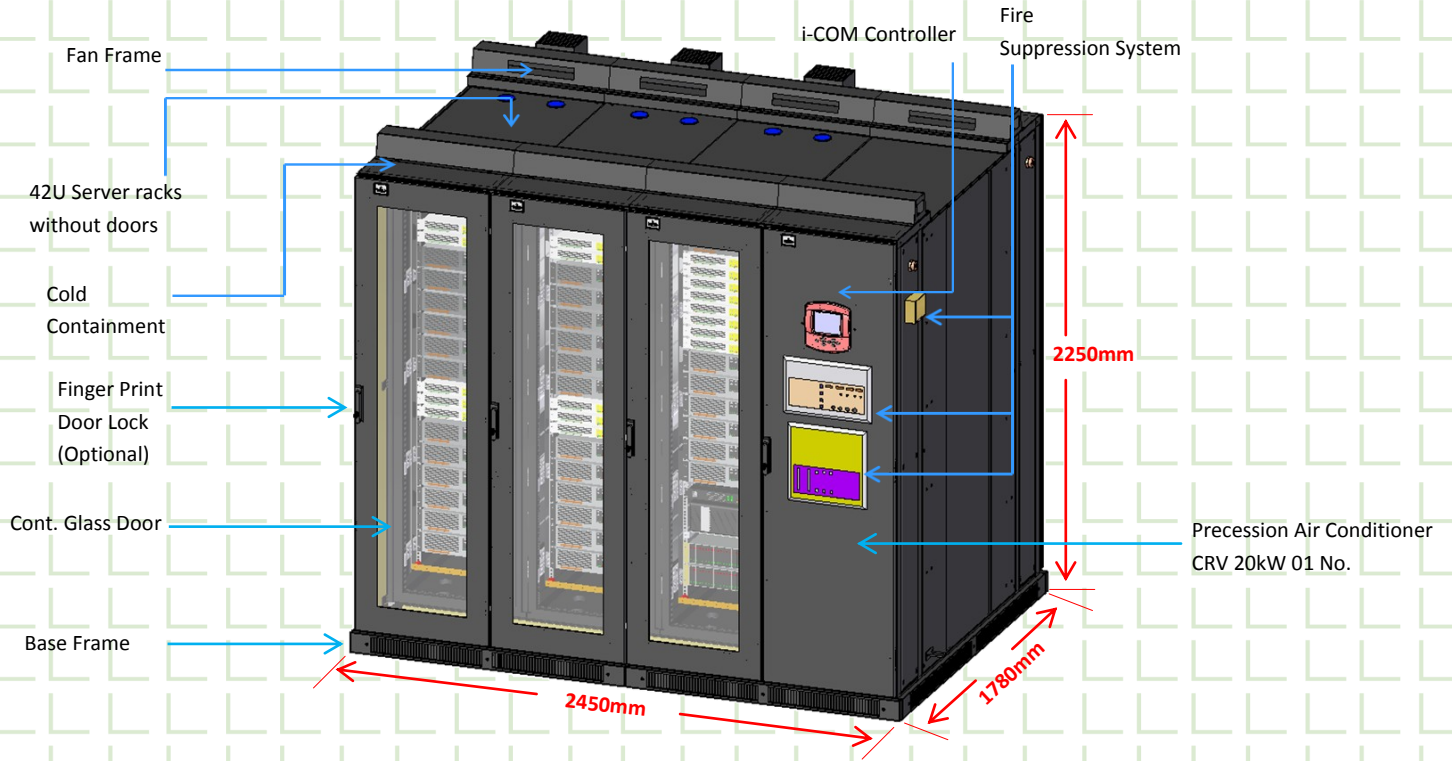
**Smart Row** is basically a combination of one or more server racks with cooling unit mounted on same frame. The idea is to contain the space for Cold aisle and Hot aisle and thereby not affecting the surrounding environment.

The solution works on the principle of close loop cooling.

Smart Row is used to store the 19" rack mount hardware equipment which comply with the industry standard. Smart Row can realize the centralized cooling and monitor the equipment in the cabinet, and improve the energy efficiency of small sized data-center through closing the cold and hot aisle.

## RACK ACCESSORIES: RDU-L SERIES;

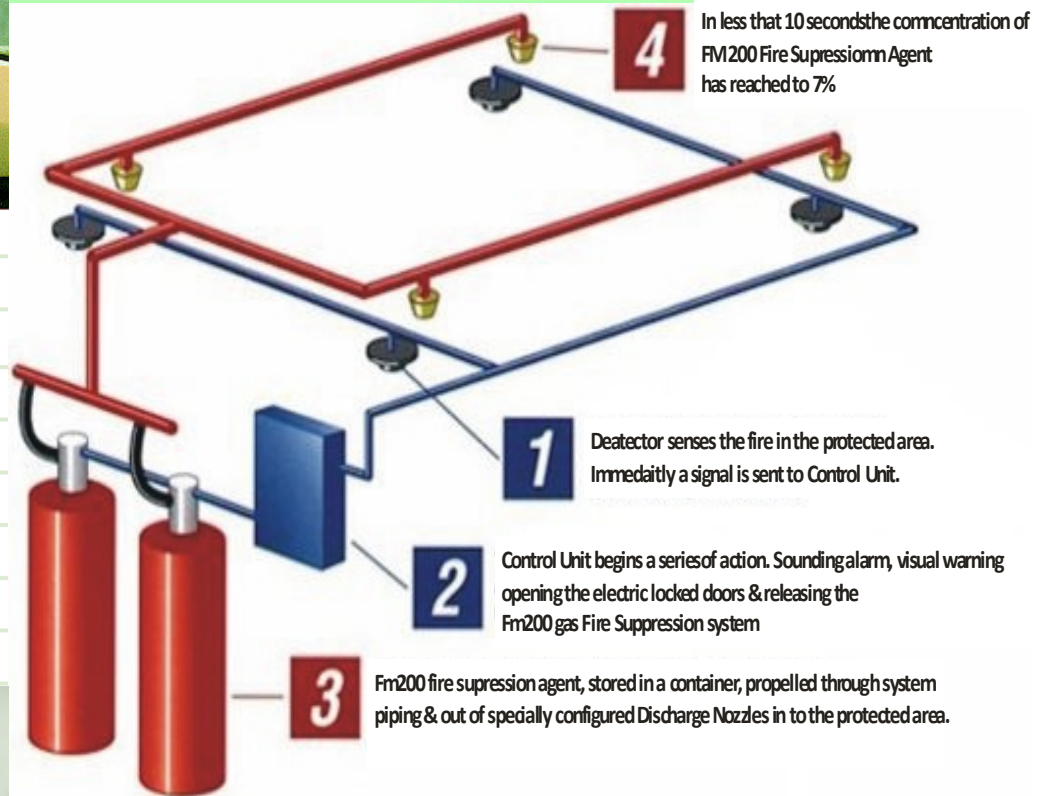






FM200 GAS DISPERSION INSIDE DATA CENTER.

## FIRE SUPPRESSION SYSTEMS:



### PRASA PROVIDES:

- TURNKEY FM200 FIRE SUPPRESSION IMPLEMENTATION.
- FM200 GAS FILLING OF EXISTING CYLINDERS.
- PIPING ASTM GRADE-B SCH. 40
- ELECTRIC, MANUAL & PNEUMATIC ACTUATORS.
- MULTIZONE FIRE PANEL WITH GAS RELEASE & TIMER CIRCUIT.



### FM200 CYLINDER CONNECTED TO GAS RELEASE PANEL

- BIOMETRIC ACCESS CONTROL SYSTEM
- BIOMETRIC TIME ATTENDANCE & PAY-ROLL SYSTEM



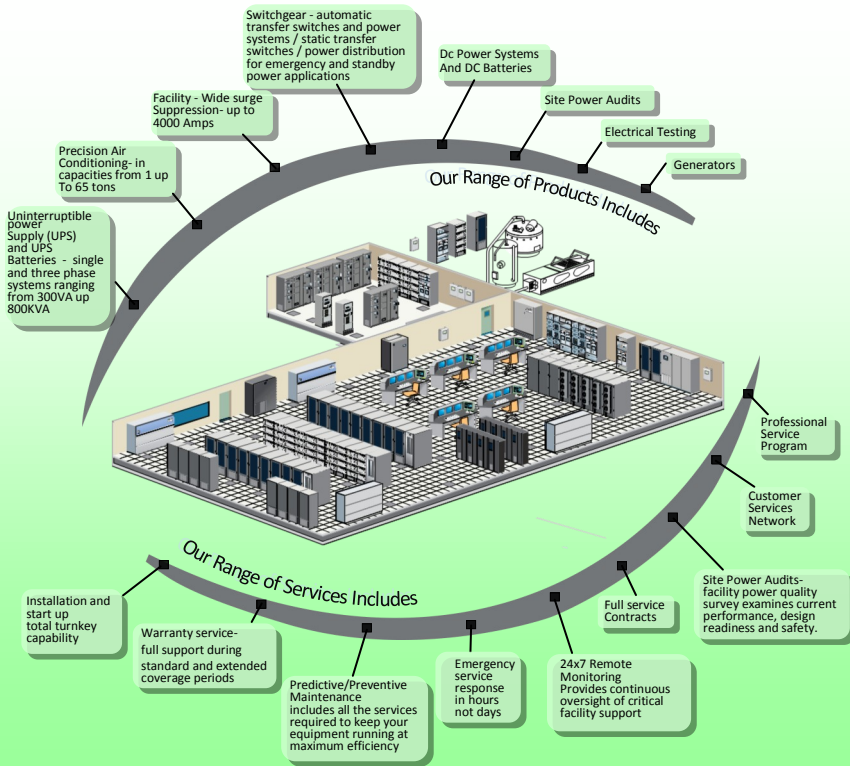
The FM-200 zero Ozone Depleting Potential (ODP) fire suppressant supplied and installed by PRASA is now well established as the single most effective Halon 1301 replacement. It is approved and verified around the world by such organizations as Britain's Loss Prevention Council, Lloyds Register, and the US Environmental Protection Agency.

Fire can be extinguished rapidly, typically knocking out class A, B and C fires in less than 10 seconds. This minimizes atmospheric toxicity and the generation of smoke and soot. Physical and chemical actions combine in FM-200 to form an irresistible fire fighting force. FM-200's physical properties lower the flame temperature, while the chemical action suppresses flame propagation.

In fact, FM-200 is the appropriate choice in applications where liquid extinguishants, water-based or dry chemical products can cause costly damage or result in considerable and expensive downtime. Because of its zero conductivity, this includes electrical, communications and data processing equipment and plant or machinery.



Integrating DATA CENTRES...



PRASA, a business partner of Emerson Network Power (I) Pvt. Ltd., is the global leader in enabling **Business- Critical Continuity™** from grid to chip for telecommunication networks, data centres, health care and industrial facilities.

PRASA provides innovative solutions and expertise in areas including AC and DC power and precision cooling systems, embedded computing and power, integrated racks and enclosures, power switching and controls, monitoring, and connectivity.

All solutions are supported nationally by local PRASA service technicians. Liebert AC power, precision cooling and monitoring products and services from PRASA deliver Efficiency Without Compromise™ by helping customers optimize their data centre infrastructure to reduce costs and deliver high availability.



## PRASA INFOCOM & POWER SOLUTIONS P. LTD.



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Integrating DATA CENTERS...



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- ◆ SARASWAT CO-OP BANK
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