

Frequently Asked Questions

Company

When was Power Assure founded?

Power Assure was founded in 2007. Much of the key technology and relevant patents were developed by a parent company, International SoftDevices, which specializes in sophisticated process automation for large enterprise customers. Those technologies and patents were then transferred to Power Assure upon its inception.

Who owns Power Assure?

Power Assure is a venture-backed startup. Draper Fisher Jurvetson (DFJ), a leading venture capital firm, was the primary investor in the company's initial financing. View the press release of the funding at: [Series A Funding](#)

What industry recognition has Power Assure received?

Power Assure earned two awards at the 2008 Clean Tech Open, one for *Smart Power* and one for *Sustainability*. The Clean Tech Open competition encourages the development of clean technology companies that foster a healthy natural environment.

Solutions

What does Power Assure mean by moving data center server operations from “always on” to “always available?”

Data centers have traditionally been operating “always on.” All assets – servers, lighting, and cooling – were turned all the way on all the time. Having everything turned on was viewed as the best way to ensure maximum service uptime, and energy costs were largely ignored.

The growth of the data center market, the increase in energy costs, and a new focus on minimizing the generation of greenhouse gases have all combined to force companies to rethink their data center operating model. With the introduction of Power Assure's Power Management software solution, companies can now power down unneeded server capacity, thereby enjoying significant energy cost and associated greenhouse gas savings. At the same time, Power Assure's solution ensures that the

unused server capacity is “always available” to respond to changes in application load so that service levels are never compromised.

Why does Power Assure implement its solution as a “software-as-a-service (SaaS)?”

Power Assure’s SaaS approach confers key benefits to its customers:

- Low total cost of ownership by eliminating the need to purchase, install, support, and maintain additional servers and software licenses
- Quick implementation and faster payback
- Immediate access to software solution improvements and easier upgrades
- Improved data center staff productivity with a focus on your core business
- Third-party archiving in a reference database for historical tracking to meet utility and regulatory reporting requirements to qualify for energy incentives and rebates

How is Power Assure’s solution better than alternative offerings?

Power Assure’s solution features several unique advantages:

- Power Assure's software solution goes beyond simple power monitoring of data centers to actively manage server capacity to match application load
- Unlike other offerings that are rule or time-based, Power Assure dynamically manages server capacity based on a sophisticated calculation engine's processing of extensive real-time data
- Power Assure’s software-as-a-service (SaaS) approach delivers important customer benefits, as listed above

My data center servers are load-balanced. Will Power Assure work in my environment?

Yes. Power Assure’s product works in conjunction with your existing load balancing solution to dynamically manage server capacity as application load changes.

We have virtualized our data center servers. Will Power Assure work in my environment?

Yes. Adopting virtualization in a data center can capture some important operating and associated energy efficiencies. Power Assure's solution will work in conjunction with your virtualization approach to maximize load across available servers and minimize energy costs.

What are the key steps for implementing Power Assure's solution, and how long does it take?

Power Assure can complete a customer implementation in as little as 2-4 weeks. Key steps include:

- Customer evaluation – 1 day. Conduct survey to estimate savings opportunity and installation fee
- Installation – 1 day to 2 weeks. Install meters and temperature sensors, as necessary. Track application load and baseline costs
- Tuning – 1 to 2 weeks. Adjust dynamic server management, automated cooling, and buffer to match SLAs
- Savings – Week 4+. Realize savings and apply for available utility rebates

How does Power Assure integrate with my current data center and network management systems?

We currently integrate with any network management system that supports Simple Network Management Protocol (SNMP) and Intelligent Platform Management Interface (IPMI). We work to avoid entering data more than once by leveraging centralized databases.

How does Power Assure integrate with my trouble ticketing system?

We can integrate with your existing trouble ticketing system in two ways, depending on your preference. One option is to instruct the ticketing system not to generate a ticket if it was based on events managed by Power Assure. The second option is to allow the ticketing system to generate tickets but immediately close them if they were generated due to actions taken by Power Assure's management software.

How does Power Assure integrate with my inventory tracking system?

Power Assure will “extract” or “interface” with your inventory tracking system. For example, adding or removing a server will automatically be reflected in Power Assure’s management dashboard.

Does Power Assure provide energy monitoring services?

Yes. Power Assure provides a full-featured energy monitoring service for data centers. The service helps customers understand the energy consumption profile of all their data center sites over time and is very helpful in assessing the potential savings available with the implementation of our energy management solution. For further information, please contact [Power Assure](#).

In what countries is Power Assure’s platform available?

Power Assure’s solutions are currently available in the U.S. and Canada, and additional countries are being added as demand evolves. For a current list of countries served, please contact [Power Assure](#)

Technology

What is the overall architecture of the Power Assure service?

There are three main components to our service:

1. Energy Supply Balancer® -- at your site
2. Energy Demand Balancer® -- at your site
3. SaaS Backend – at Power Assure’s data center

The Energy Supply Balancer and Energy Demand Balancer reside within your firewall and interact with building management, system and network management, smart meters, power strips, and environmental sensors. The Balancers are hardened SUSE Linux appliances that run our own proprietary software. The Balancers have two functions:

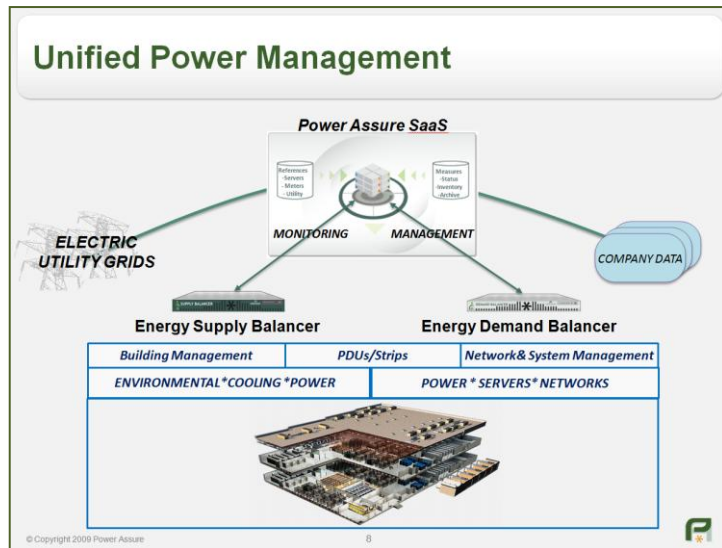
1. Connect to your servers, management networks, and meters to collect power utilization, temperature, humidity, application load, server and network status, and any other information you would like to add to the dashboard to determine capacity and utilization of your data center. This data is then sent to our data center via an outbound https connection.

2. Connect to our services by an outbound https connection to receive configuration changes and details as to which equipment should be powered off or on.

In summary, these appliances are running at your location and act as a proxy gateway connecting our data center services to your servers and monitors. There are no inbound ports required on these machines. We do recommend an outbound port be made available for SSH to access the appliance and allow for configuration changes locally. This is optional. Depending upon your security architecture, we can also supply you the configuration changes allowing you to update our software.

The SaaS Backend Services run at our secured data center. These services include shared information, such as utility rates, demand response requests, and utility alerts. In addition, specific information related to your environment is captured, including inventory, real-time measurements, and status information.

This is a software-as-a-service, multi-tenant application which houses the data required for the software to make decisions as to which servers should be turned on or off. There is a dashboard available which is accessed via an https connection from a browser. Your dashboard is protected by a username and password. IP Address protection allows for limited access to your environment. VPN connections are available on demand.



How does increasing the power cycling of servers affect their reliability?

Server technology and design have evolved dramatically in the last five years to the point that power cycling of servers does not materially affect their reliability. Indeed, all major server vendors, including Dell, Fujitsu, HP, IBM, and NEC, have announced their support of aggregating unused server capacity and powering off unused servers to help customers reduce energy consumption.

Moreover, Power Assure’s solution can actually improve management of server assets:

- Power Assure cycles servers all the way down to the outlet level, which represents the most reliable cycling approach and also avoids exercising the power switch
- Power Assure facilitates the customer’s warranty exchange program. If a server fails, Power Assure can try to restart immediately or after a predetermined delay. If the server does not restart properly, Power Assure flags the server as dead and reports that information to trigger the warranty exchange program

- Power Assure's approach to shutting down unneeded servers can actually extend server life because critical server components are not degrading under constant operation
- Of course, if a server does fail, Power Assure turns on alternative servers to maintain service levels

Partners

What channels does Power Assure sell through?

Power Assure has a direct sales force and also sells through partners that currently serve the data center market, including data center operators, data center hardware and software vendors, and data center service providers. For sales information, please contact [Power Assure](#). View additional information on our channel program at [Power Assure Channel Partners](#)

Does Power Assure have strategic partners?

Power Assure is working with leading companies to provide comprehensive data center solutions. View Power Assure's current strategic partners and learn about our Strategic Partner Program at [Power Assure Strategic Partners](#).

Security

We do not allow external appliances into our network. Do you have a work around?

Yes. You can either provide a physical box running SUSE Linux and hardened to your satisfaction, and we can install our software on it, or you can provide a virtual server, and we can install on it.

Can we have access to your appliance running in our location?

Yes. You can have complete access to the appliance, and you can install security protection software on it. Our requirement is that the appliance can make an outbound https connection to our hosting location. The appliance also has to have access to connect to your servers to collect application load, power usage, and temperature information.

Where will you be configuring the appliance?

We will configure the appliance at your location. This will allow you to get familiar with the appliance, and you can harden the box. You can also run security audit tools to determine if any ports are open to ensure we fit your security requirements.

Can your appliance be part of our intrusion detection scheme?

Yes. It is easy to hook up any intrusion detection software to our appliance. We will work with you to ensure proper installation.

What other network topologies can you suggest?

We support a site-to-site VPN between your location and our data center. Your firewalls should be set up to allow only the appliance to access the VPN tunnel. Another option is to restrict the IP address of the appliance to limit access only to our data center.

What happens to our servers if the Power Assure Data Center is compromised?

The appliance is making an outbound https connection, so it is highly unlikely the appliance running in your location will be compromised. In the event the appliance is compromised, you can restrict outbound traffic from this appliance to your internal machines based on a specific protocol.

What happens if my data center is compromised and the command issued by the appliance is to turn off all the servers?

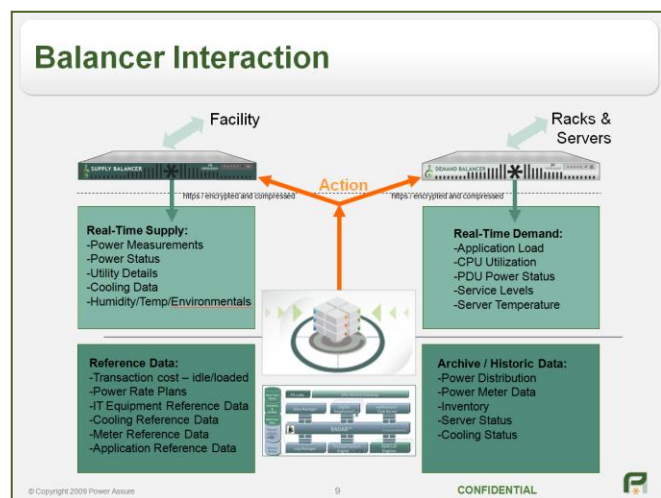
Power Assure’s failsafe mechanism is to turn on all the servers. We turn off servers from the top down, meaning that we look at the total available capacity and the current load and turn off servers to reach the safety buffer from top down. We are NOT turning on servers from bottom up to reach the safety buffer, and we never permit all servers to be turned off.

We also set up an alarm as servers are turned off to notify your administrator. The alarm message is customizable to relay all relevant data. For example, when the alarm gets activated, it can identify how many servers are still on.

What kind of data is being stored in your hosting location?

You decide what kind of data you would like us to use in our algorithm. For your Power Assure solution to be effective, however, we require the following data:

1. Number of servers you want us to manage



2. Power usage of the servers, PDUs, UPS, and cooling units
3. Rack location of the servers
4. Environmental data
5. Application load, including number of transactions, CPU, and memory
6. Configuration information and access information to the management interface of the servers

Who has the rights to manage the servers?

Your administrator will have complete access to our data center and your servers via https from a browser. You will be presented a dashboard with real-time information. You can run simulations to see how much would be saved if the safety buffer was lowered. We also have a failsafe mechanism where the administrator cannot accidentally shut off all the machines.

What is the security mechanism for accessing this web site?

Your administrators login with a secure username and password. Furthermore, we can restrict the IP address range to only those who can access the website.

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