

iTRACS® as a digital twin provider

Digital twins are one-to-one virtual representations of real-world objects. These virtual copies allow the modeling of the historical, present, and future operating state of an object. This data-rich model allows simulations and “what-if” scenarios to occur without affecting the real-world counterpart.

Digital twins provide many benefits across a wide range of industries, and are particularly well suited for [data centers](#).

Both iTRACS® Converged Infrastructure (iTRACS CI) and iTRACS Data Manager (iTRACS DM) provide a fully-featured digital twin experience.

3D COUNTER PARTS

iTRACS CI provides 3D visualization that allows you to manage your entire data center.

iTRACS Data Manager (iTRACS DM) goes a bit further, providing full 3D visualization of your entire building and campus that allows you to view and manage your entire infrastructure. Every aspect of the real-life location can be modeled. Examine the entire campus and building to see a high-level view or drill down to a more granular view to see every server, plugin, hard drive, breaker, or even down to the individual port on any device.



CI front



CI back

View the data and power connectivity for any device. Every connection, including internal connections, can be modeled—letting them be viewed, traced, and reported upon.

DATA IS INFORMATION

Attributes

Every asset in iTRACS can store any attribute as required by the business. Attributes are stored historically, so historical trends can be analyzed and future needs can be forecasted.

For many operators, capacity is managed retroactively—when they run out, they build more. iTRACS enables operators to predict when they will reach an operational threshold or the actual limit of a particular resource (space, power, network, etc.). Through analysis of historical data and powerful future data models, operators can accurately predict and plan the deployment of additional capacity well in advance of the business need.

Commissioning

iTRACS provides the data model and tools that allow the efficient and effective management of all adds, moves, and changes for any asset within your facility. Capacity and current utilization of space, power, and connectivity can be evaluated—and suitable locations quickly identified—to meet business requirements.

Every add, move, or change within your data center is tracked in one location as a single source of truth. Every individual in the organization can refer to the same set of real-time, verifiable information.

Connectivity

In iTRACS, every port on every device can be modeled, and every port can be connected to another port on a separate asset. Every connection can either represent a cable or an internal route within an asset. iTRACS tracks the type of cable and maintains business rules governing what types of cables can be utilized when making a connection between two ports.

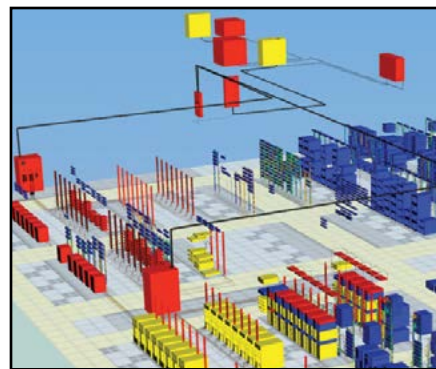
Every connection is tracked and traceable. Connectivity can be visualized—revealing the full connectivity chain from end to end and every hop in between.

Simulations

iTRACS allows for modeling different types of “what-if” simulations based on current and historical data. Users can simulate different deployments and configurations—producing multiple possible futures to simulate different growth rates as well as increases or decreases in the total capacity.

iTRACS DM simulations can also be run against a power chain to test for any gaps or weaknesses in the event of a power failure.

Power redundancy simulations filter the iTRACS DM 3D viewer to show which devices fail if the selected item were to lose power. Devices are color coded to indicate whether the device survives the power failure due to redundant connections or fails and goes offline.



INTEROPERABILITY

RESTful API

iTRACS CI has a fully documented RESTful API. The web-based documentation provides detailed information for every endpoint, explanations of the required and optional payload fields, as well as sample responses—everything required for developers to work with the iTRACS CI API.

This API allows customers to easily connect to and share information, bi-directionally, between any business application or data source and iTRACS CI.

All of this comes together to make the API quick to learn, and simplifies incorporating iTRACS into existing business workflows.

CONTACT INFORMATION

Visit our website or contact your local iTRACS representative for more information.

<https://www.itracs.com>

For technical assistance or customer service, visit us at:

<https://www.itracs.com/customer-care>

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