OSIsoft.

PAYPAL

Presented at PI World 2018

THE LONG ROAD TO INDEPENDENCE: HOW THE PI SYSTEM™ ENABLED PAYPAL'S SEPARATION FROM EBAY

First established in 1998, PayPal has been a subsidiary of eBay for the majority of the last 20 years. PayPal now operates across 33 data centers and facilitates more than 6 billion payment transactions per year. In 2014, eBay announced plans to separate PayPal and turn it into its own company, initiating a long journey for PayPal toward independence. Shawn Tugwell, Senior Data Center Engineering Manager at PayPal, recently told the story of that journey during the PI World 2018 conference in San Francisco.

ALL TANGLED UP

eBay has long used the PI System to help monitor and manage its racks and data centers. As a subsidiary of eBay, PayPal had nearly 20 years' worth of data wrapped up in eBay's PI System. To become independent, PayPal first needed to disentangle their data from eBay's. The first step was to create their own PI System and migrate millions of data tags and other information related to Asset Framework and PI Notifications. OSIsoft's PI Cloud Connect allowed PayPal to continue sharing information with eBay, as both companies still had assets in each other's data centers even after the separation.

But apart from information entanglement with eBay, PayPal faced some other challenges at the start of their journey toward independence. Spreadsheets existed in an overwhelming abundance. Manual tracking of critical data center information on space, power, and cooling, combined with a lack of real-time data, inhibited the ability of managers like Tugwell to make informed decisions about capacity planning. Fragmented monitoring, multiple platforms and alarming systems produced a disconnected view of operations in the data centers.

PayPal wanted forecasting and planning related to equipment usage and maintenance as well as visualization of their data centers all in one system. Their goal was simple: enable data-driven decision making using real-time environment information and alerting. Engineers also needed space and power visualizations to better plan their installation and decommission activities. To help sort out their data reorganizing and set up their own independent Data Center Infrastructure Management (DCIM) tools, PayPal enlisted the help of Casne Engineering and Deloitte Consulting.

A DATA PIPELINE FOR A NEW DCIM

Once PayPal created its own PI System that was independent of eBay, the PI System became the data pipeline for the new DCIM platform that Casne, Deloitte, and PayPal set up.

CHALLENGE:

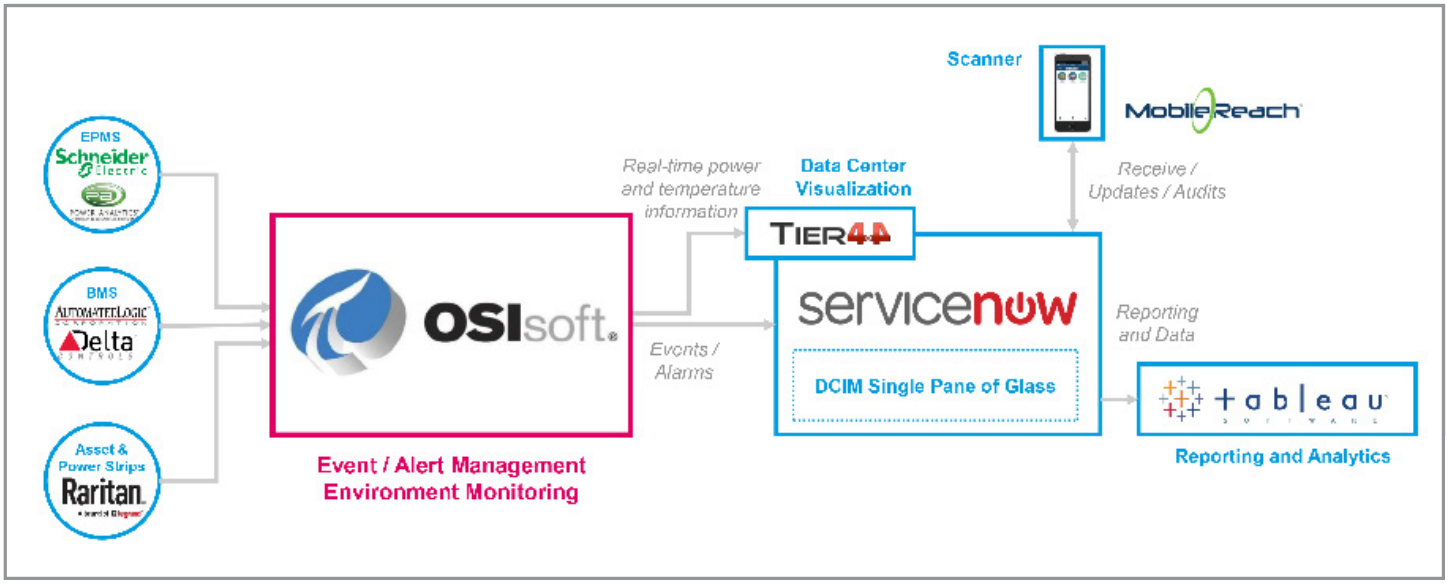
Data entangled with eBay's PI System; lack of timely information inhibiting critical business decisions.

BENEFIT:

Data-driven insight into power and cooling status of assets in data centers; ability to do budget forecasting and predict future capacity needs.

SOLUTION:

Create independent PI System to use as data pipeline for new DCIM.



The PI System empowers PayPal's new DCIM with real-time data for monitoring all of their data centers.

The DCIM was built around ServiceNow, PayPal's central platform for ticketing and workflow, as well as Mobile Reach and Tier 44, and utilizes the PI System for gathering data, alerting and monitoring the environment in the data centers.

Data comes into the PI System from several sources, including PayPal's electrical power management systems, their building automation systems, and the Raritan power strips in the data centers. PayPal uses PI Vision to create dashboards and organizes the information coming out of the various systems with OSIsoft's Asset Framework, provides data modeling for equipment. Logistics teams can then validate requests for space and power based on real-time data provided by the PI System. "Now we are able to forecast out, we are able to control what comes into the data center," Tugwell said. "We're not having to run around to try to find new space because now we have a tool that's helping us make that business decision."

BETTER MANAGEMENT AND SAVINGS OPPORTUNITIES

In addition to collecting information from various data streams, PayPal also uses the PI System to manage their maintenance operations.

Before their new DCIM was in place, PayPal was inundated with alarms. To solve this, they created a system to generate service tickets in ServiceNow based on PI Notifications. Now, they can track alerts, trend alert data, and use it for lifecycle management of equipment in their data centers.

The PI System also helped PayPal deliver real-time data to upper management. "The best part of it is I can now provide this data to our upper management in seconds instead of 40 days later," Tugwell said. In the future, PayPal hopes to use the data they are getting from the PI System on space and power utilization to drive costs down with their co-location providers, where they have assets in data centers they don't own. The company plans to work with a hardware engineering team to better allocate the power in those data centers. "That is going to save us money because we [won't] need to buy more co-location space," Tugwell said.

For more information about PayPal and the PI System, watch the full presentation here.

PARTNER:

CASNE Engineering

PI System™ Components Used:

PI Server™
- Asset Analytics
- Asset Framework
- Data Archive
- Event Frames
- Notifications

PI Vision™

PI Connectors

> *"We are doing this to provide better value, to enable the business to make better decisions based on data not on guessing what is the next best course to install cabinets or to track power utilization."*
>
> — Shawn Tugwell, Senior Data Center Engineering Manager at PayPal

Budisalovich, Travis; Tugwell, Sean; and Wozniak, Chris. "Modernizing DCIM through Visualization and Real-Time Monitoring" <https://www.osisoft.com/Presentations/Modernizing-DCIM-through-Visualization-and-Real-Time-Monitoring/>