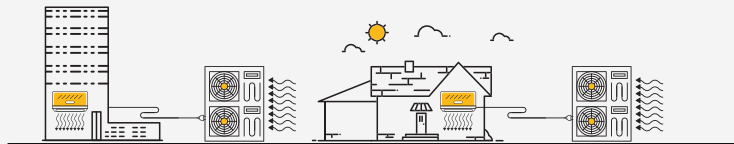


**GLOBAL LEADER IN HVAC SYSTEMS
ACHIEVES CUSTOMER SERVICE
EXCELLENCE WITH HCL'S REMOTE
SERVICES SOLUTION**

**Customer
Profile**



The customer is an American multi-national conglomerate operating across 170 countries. It manufactures, distributes, and manages heating, ventilating, and air-conditioning systems for commercial and residential applications. The customer strives to create comfortable environment, safeguard global food supply, and ensures general well-being by delivering vital medical supplies under exacting conditions. It also strives to spearhead the green building movement worldwide.



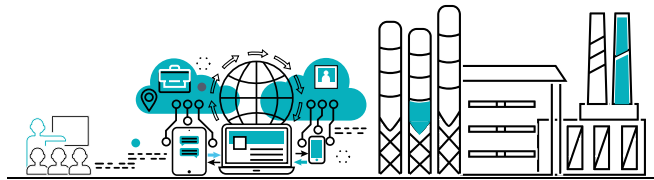
**Customer
Challenges**

The customer provides HVAC equipment and field services to end users. It was struggling to enhance after-sales services of chillers at multiple locations, resulting from the absence of a tracking mechanism. As a result, locating parts was a time consuming process, and there was poor communication among technicians involved.

- ▶ Lack of visibility into performance of installed base of chillers across various sites.
- ▶ Downtime of critical chillers at some customer sites was as high as 2-3 days.
- ▶ Longer lead time to support breakdown activities at the customer site.
- ▶ First time fix rate was low due to lack of sufficient data pertaining to the problem, and its context.

Currently, the HVAC systems installed at the end-user's location have embedded sensors, which collect data continuously. This data is subsequently stored in SCADA systems. The customer partners with third-party service providers to install and manage chillers.

Our Solution



Our expertise in understanding IoT use-cases, combined with proven infrastructure capabilities, helped identify the IT/OT gap that existed in the customer's bespoke IoT platform.

OUTLINING THE SOLUTION ROADMAP:

HCL initiated the process with a 'Define' workshop to brainstorm and identify gaps and set the agenda for 'Business Transformation'.

An Enterprise Class Remote Service Platform was proposed, which facilitated sensor integration with various protocols to support remote monitoring of chiller plants. The solution met both existing and future business growth requirements.

This was followed by the Build stage. A remote service framework was developed to connect service executives and field service technicians through a service portal and mobile application. The solution was designed considering the multi-tenant nature of the business.

PROPOSED ARCHITECTURE LEVERAGED MICROSOFT AZURE CAPABILITIES ALONG WITH THE FOLLOWING KEY TENETS:

- ▶ Integrate the local chiller data from the multiple chillers to the cloud gateway
- ▶ API-driven model to integrate cloud solutions with the existing CRM, asset management, and SCADA systems
- ▶ Scalable to monitor the devices installed across geographies
- ▶ Data extraction from multiple devices and cleansing and visualization of device data to deliver real-time key insights to service executive

THIS SOLUTION IS BUILT ON THE MICROSOFT AZURE PLATFORM TO PROVIDES THE FOLLOWING BENEFITS:

AGILE

The solution leverages micro-services-based architecture to enable flexibility, for future expansion, and integration with other enterprise tools.

SCALABILITY

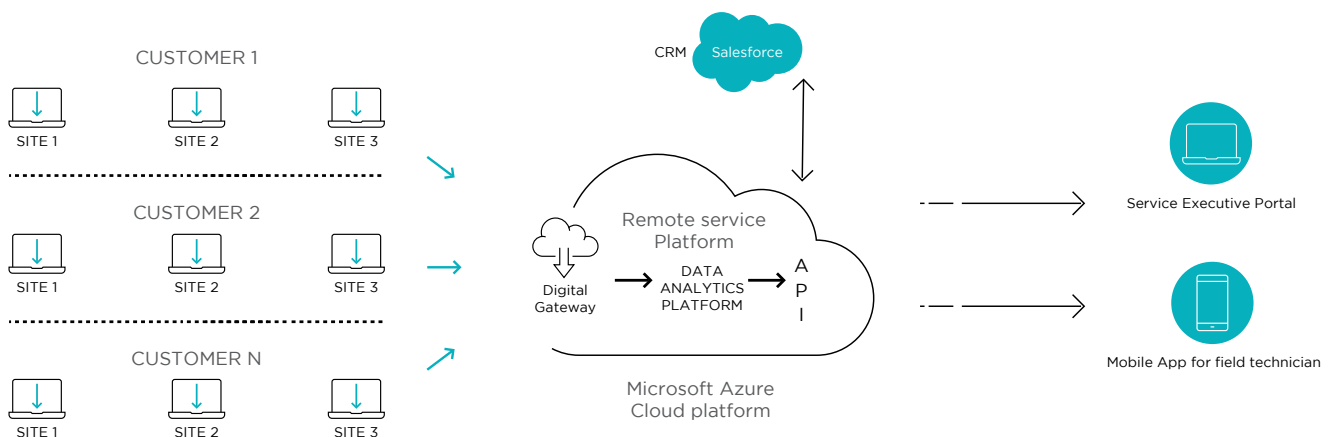
The number of devices monitored and remotely served can be scaled with minimal disruptions to the platform and the solution.

ROLE-BASED DASHBOARDS

The solution delivers web applications for the service executive pertaining to the status of the installed chillers along with a mobile application providing device information and service instruction to the field service executives on the move.

SECURITY

The data is encrypted across the layers of the IoT stack. The solution used 'secure data access APIs'. Security for device data and connectivity x.501 certifications. Multi-tenant cloud system segregates and stores the data obtained from multiple customers separately, to ensure privacy.



Customer Benefits



Our enterprise-wide solution enabled seamless operations and visibility into the ecosystem. This facilitated a holistic revamp of the legacy systems, conventions, and operating models and the deployment of a future-proof IoT platform.

CONSEQUENTLY, THE CUSTOMER ALSO ENJOYED THE FOLLOWING BENEFITS:

- ▶ Enhanced customer satisfaction and retention by reducing maintenance downtime from 2-3 Days to a few hours
- ▶ Increased operational efficiency of the service technicians by providing the right information at the right time
- ▶ Optimized asset performance by transitioning from reactive maintenance to predictive maintenance
- ▶ Diminished service cost due to scheduled maintenance and improvement in first time fix rate resulting from timely delivery of asset information to the technician



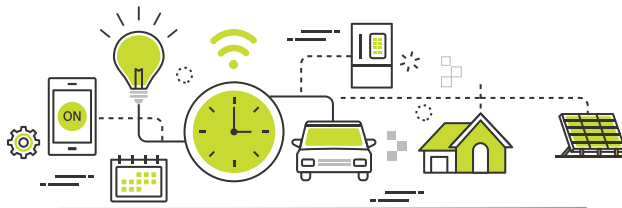
Increase in technician's productivity by **15-18%**



Reduction in service cost by **8-10%**



Increase in first time fix rate by **15-17%**



Who Are We?

IoT WoRKS™ is a dedicated Internet of Things business unit from HCL Technologies that enables organizations to create best-in-class solutions by enabling IoT-led transformation. These solutions maximize effectiveness and returns on asset investments by creating efficient processes, new revenue streams and business models that deliver measurable outcomes. Recognized as a market leader in IoT by leading analyst firms, IoT WoRKS™ continues to strengthen its leadership position in fast-growing global IoT services and consulting market.

We have a differentiated solution portfolio which aims to enable connected workforce, connected products, connected infrastructure, and connected operations for the 21st Century Enterprises. With end-to-end IoT services for organizations across the three phases - Define, Build & Run - IoT WoRKS™ helps design enterprise IoT strategy, develop and run the IoT systems for realizing real business value. Solving the eminent challenges in the industry today with the research-led approach, IoT WoRKS™ has launched a platform, IoT COLLAB - the destination for IoT-led business transformation for 21st century enterprises to co-create transformational IoT roadmap & solutions with customers.

We continue to develop best-in-class IoT frameworks, wider and more mature solution offerings across key IoT business segments, as well as strengthening its IoT ecosystem play with the right partnerships, and engage customers with innovative business models to drive the phenomenal business transformation opportunity.

OUR IPs AND ACCELERATORS



DDX
Accelerator for
device IoTization



IDEA Gateway
Reference design
for an intelligent
device



Pangea
Data Analytics
platform



**Platform
Acceleration Suite**
Build next generation
cloud services

WHEN YOU START WITH A TOP-RATED
VALUE PROPOSITION, THE RATINGS FOLLOW



Visit www.hcltech.com/iot for more information

To collaborate over a complementary IoT roadmap workshop,
email us at iotworks@hcl.com



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BEYOND THE CONTRACT

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