

Global Financial Services

2021 Overview



Executive Summary

Taming the complexity of transformation within the financial services and banking industry is no small feat. It can only be accomplished through tireless innovation and it requires never losing sight of the needs of customers. Success cannot be measured by one initiative and often the most valuable lessons are those learned through failure.

In working to simplify the complexity of transformation, WWT offers a remarkable set of capabilities and resources, as well as decades of experience serving many of the world's largest financial services and banking organizations. But more importantly, we offer the strength of our commitment to partnership. This commitment is founded on our core values and positions us, culturally, to do incredible things for our customers.



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The key to long-term success

Perhaps the most important aspect of WWT's value proposition is the cultural commitment we make to our customers' success.

Our culture is our secret weapon

At WWT we start with our greatest innovations of all, our people and our culture. Because we know this is what drives results. Our core values aren't just posters on the wall, they are how we act with each other, our customers and our partners. They shape who we are and how we give back.

WWT's priorities

Our people. WWT builds and invests in the people and teams necessary to help customers accelerate technology deployments and recognize results faster.

Our partnerships. WWT partners with customers and OEMs to enable desired results for both.

Our focus on outcomes. WWT intentionally develops and deploys solutions that combine innovative products with WWT's resources, capabilities and intellectual property in order to achieve desired business outcomes for customers.



Corporate Social Responsibility (CSR)

WWT's Corporate Social Responsibility (CSR) program truly embraces the social issues that are important to our employees, our customers and our partners. We solicit feedback, listen and respond to the concerns that are most pressing to our key stakeholders.

- Diversity & Inclusion (D&I)
- Preserving the Environment
- Global Community Impact
- Being a Great Place to Work

“We believe making a positive social and business impact on the world requires a combination of corporate social responsibility and embracing diversity in people and ideas.”

Ann Marr, Corporate Social Responsibility Executive Sponsor





WWT’s commitment to diversity

Diversity is what makes us unique as an organization, but Inclusion is what sparks our innovation and creativity. Our vision and mission is to provide all employees an opportunity to advance their competencies through continuous learning while building a sense of camaraderie, mentorship and increased awareness throughout the organization.

WWT’s Diversity and Inclusion (D&I) Program

Our commitment in building a diverse workforce starts with our recruiting efforts reinforced through leadership support. Our goal is to find the very best talent who can embrace the company’s core values and possess the competencies for the job, and we will continue to leverage our collaboration with strategic partners, professional organizations, college on-campus organizations and community outreach partners.

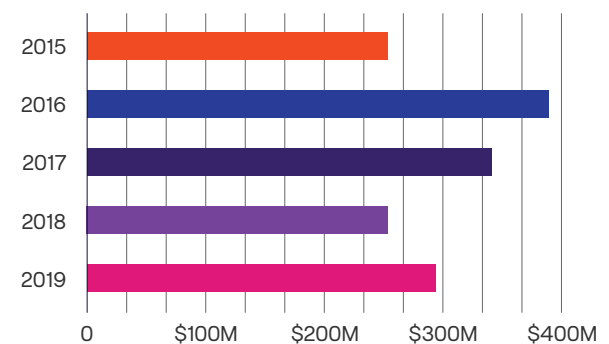
Continuous education

WWT also strives to provide continuous education on embracing and celebrating the cultural differences of our employees. Creating a Culture of Inclusion encourages different perspectives, experiences and capabilities in everything we do. We will continue to drive change and education through equality, community partnership and connection.

Supplier diversity spend

Category	Spend amount	Number of suppliers
Minority Owned	\$ 49,944,276	41
Women Owned	\$ 8,492,009	40
Veteran Owned	\$ 1,873,348	8
Disabled Veteran Owned	\$ 5,782,793	3
Small Business	\$ 220,251,210	168
Small Disadvantaged Business	\$ 19,084,862	34
Total	\$ 305,428,498	294

YOY diversity spend



Global reach

With international sales making up approximately 10% of total revenue, WWT now operates more than 2 million square feet of warehousing and distribution facilities around the world, as well as more than 100,000 square feet of staging and integration space.

Overview of WWT's Global Capabilities

WWT's Global Integration Centers are climate-controlled production environments with advanced networking, secure remote access and certified procedures specifically designed for staging, kitting and configuring the latest advanced technology solutions.

North American Integration Center: U.S.

The North American Integration Center, located in the U.S., operates more than 55,000 square feet of secure integration space with the capacity to simultaneously configure and integrate thousands of systems per week.

European Integration Center: Amsterdam

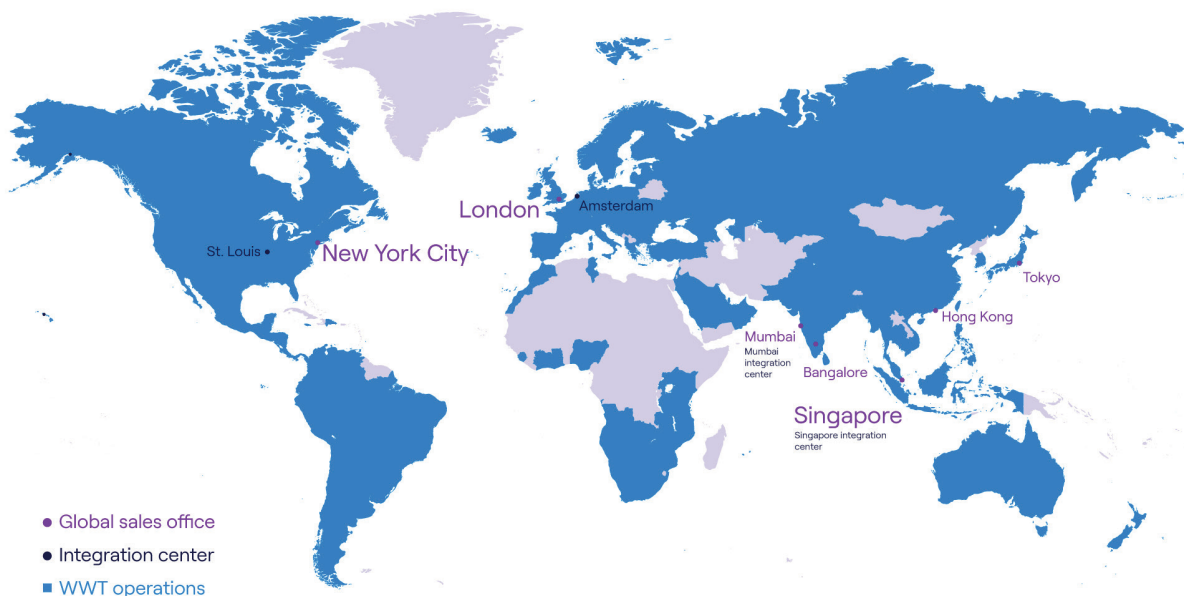
The Amsterdam-based Integration Center provides a range of services to support customer projects and programs, including warehousing operations, quality control, trade and compliance management and material forecasting and procurement planning.

In addition to a dedicated infrastructure to support data center integration activities, the European Integration Center offers lab services, including rack and stack, cabling, configuration and custom crating for systems shipment.

Asian Integration Centers: Singapore and Mumbai

WWT has been expanding its global footprint in Asia, including the development of facilities and resources in India and Singapore. WWT's Integration Centers provides a full range of integration services, including rack and stack, cabling, configuration and custom crating for systems shipment.

WWT's global footprint

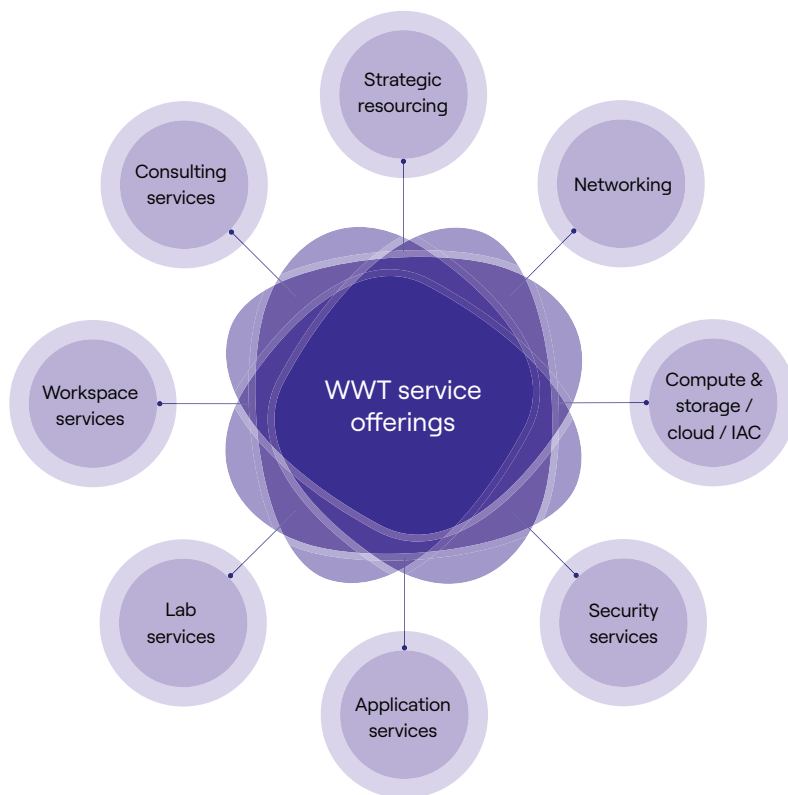


WWT services

WWT offers a wide range of services, including consulting, infrastructure, supply chain and staffing. These capabilities are supported by our Global Project Management Office and our operational Command Center.

Execution at scale

WWT's service offerings play an important role in our Idea to Outcome methodology, enabling us to support strategy formation and execution. In 2020 alone, WWT delivered over \$280 million of installation services projects. WWT's Professional Services team includes more than 200 project managers, 350 deployment engineers, 500 contractor and strategic sourcing resources and 400 partner resources.



Networking

- Branch networking transformation (NGDC)
- Network automation
- Data Center Network Transformation
- Network modernization

Workspace services

- VDI e.g. Horizon
- NextGen collaboration
- Mobility e.g. Workspace one
- Connected real estate

Compute and storage/cloud/IAC

- DevOps / Agile infrastructure
- NextGen Engineered Systems
- Infrastructure automation
- Application dependency mapping
- Cloud suitability

Security services

- Endpoint/Patching/Tanium
- Network Segmentation and Zero Trust
- Cyber-resiliency
- Cloud Security
- Compliance (NIST, Reg)

WWT's Professional Services team manages over 1,600 projects per month

WWT's idea to outcome methodology



Application services

- DevOps / Agile
- AppDev Infra-as-Code
- AppDev UX
- Application Performance Management

Strategic resourcing

- WWT vetted resources Excellence
- Reach back into WWT engineering centers of
- Reach back into WWT Labs
- WWT consultant support

Lab services

- Evaluations / certifications
- Innovation Lab as a Service
- Innovation lab outsourcing
- SPA/ELA support

Consulting services

- Enterprise architecture
- AI infrastructure, AI platform
- AIOps
- Cloud suitability / Cloud migration

WWT services impact

WWT services portfolio is aligned with the transformation demands that digital business accelerations is placing on all FSI organizations. We help our customers:

- Accelerate modernization and evolution of technology assets globally
- Enable a consistent on-demand IT consumption model across 'virtualized' infrastructure, both legacy and hybrid multicloud infrastructure environments
- Introduce and leverage artificial intelligence and machine learning in the management of IT operations and constant improvement of user experience
- Upskill the IT organization through the infusion of talent and hands-on training

NextGen sourcing and consumption models

WWT combines our core supply chain optimization capability with Enterprise Agreement (EA) innovation and NextGen Engineered systems expertise to provide leading edge models for the sourcing and consumption of technology infrastructure.

Overview of WWT solution

NextGen sourcing and consumption models address several issues, including the growing role of software defined infrastructure and the related need for mature enterprise licensing strategies, the increasing interest in modular architecture designs, driven by hardware commoditization and the general need to optimize technology supply chains.

Supply chain optimization

Even before the global pandemic, technology supply chains lacked optimization and often failed to provide effective support for project-based deployments, as well as infrastructure refresh programs.

For WWT, technology supply chain management is a core competency. We combine technology, logistics and information to help customers decrease product lead time and increase fulfillment predictability. Our expertise in this area enables the execution of technology programs and projects in an efficient and cost-effective manner, such that customer teams can focus on implementation and adoption without concern for delays.

Benefits of centralized staging and integration. WWT has a global supply chain operation with more than 4 million square feet of warehouse and integration space, spread over three continents. These resources enable us to employ a centralized technology infrastructure build model.

By coordinating key testing, configuration and integration activities, WWT helps companies significantly lower field engineering costs and avoid project delays caused by equipment failure.

Enterprise agreement optimization

WWT created an Enterprise Agreement (EA) optimization program called EA+. It combines several WWT value added services that serve as building blocks to enable organizations to move beyond using EAs simply as instruments for price improvement.

EA+ contributes to WWT's NextGen sourcing and consumption models by improving procurement strategies and supporting



Trends

Technology supply chains are under-optimized and vulnerable

Software's role in infrastructure is growing and driving new consumption models

Public cloud is driving expectations around consumption-based pricing on on-demand availability (XaaS models)

Hardware commoditization is driving interest in modular architecture designs with multiple options

contract management. It also helps organizations lower costs by ensuring they only pay for the licenses they use.

EA+ improves consumption by providing a framework for orchestrating the activities needed to optimize technology evaluation, design, testing, deployment and adoption. By focusing on value-added services available after an EA has been signed, EA+ helps companies reimagine EAs as strategic tools that can drive innovation and enable IT teams to take advantage of today's rapid evolution of software-driven capabilities.

NextGen Engineered systems

The effort to rapidly deploy infrastructure services that meet business demand, while also reducing risk and improving efficiency, is driving organizations to evaluate and implement NextGen Engineered (NGE) systems, utilizing flexible reference architectures that are OEM independent, scalable and can be built to spec in support of numerous workloads. WWT adds value to NGE initiatives by providing a comprehensive set of services that support technology strategy formation, architecture and design and solution deployment, at global scale.

Supply chain optimization

WWT's approach to supply optimization solves challenges common to large scale deployments of complex technology solutions. These include difficulties related to staging and building integrated architectures involving multiple OEMs, as well as situations in which OEMs lack the flexibility to adapt quickly to a customer's priorities.

WWT's ability to order equipment using a pre-buy model eliminates constraints on technology deployment associated with long OEM lead times.

Pre-buy

Build to forecast

WWT works closely with customers to develop and refine demand forecasting models, aligning our material planning capabilities to the process in an effort to optimize build activities.

Stock partial/ finished goods

WWT has optimized our stocking programs and staging capabilities to enable kits of partially finished and fully finished infrastructure to be quickly moved into final integration and configuration.

Offsite integration

Key to WWT's centralized model, off-site integration enables key build and test activities to be completed at a WWT facility and then shipped on-site for installation.

Case study: Supply chain optimization for global bank

A global bank worked with WWT to achieve its goal of reducing the interval between technology equipment sourcing and implementation by 50%. WWT helped the organization achieve its goal by eliminating bottlenecks and streamlining supply chain, staging and integration processes.

Challenge

Like many global enterprise organizations, business as usual for IT lifecycle management included many inefficiencies. Some of the issues were internal, such as a poor demand forecasting and a lack of coordination between procurement, infrastructure deployment project managers and on-site installation teams, and other issues derived from poor alignment with contributing OEMs. Ultimately, these challenges combined to create a situation in which it took, on average, 31 weeks to complete deployment after infrastructure was initially ordered.

Solution

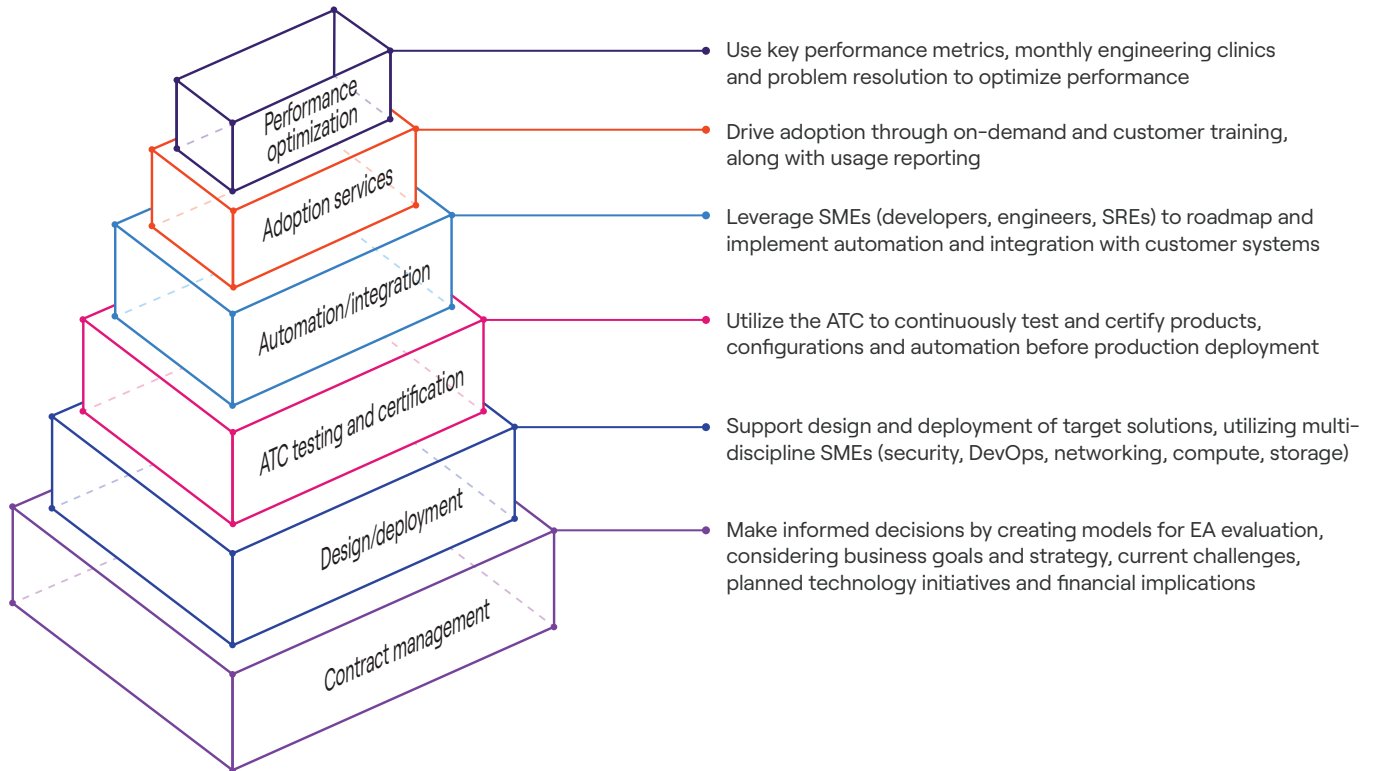
WWT worked with the customer to improve demand forecasting and combined this effort with material planning to create a mature capacity planning model that enabled the customer to expedite funding approval. The solution also employed a centralized build process in WWT's integration center that streamlined the equipment callout process and enabled rapid integration and shipping to deployment sites.

Result

WWT helped the company exceed its original goal and is now shipping fully-integrated racks eight (8) days after purchase orders (POs) are received, globally.

Commercial innovation through WWT's EA+

WWT designed our EA+ program to provide customers with the tools, strategies, expertise and services needed to maximize the ROI of technology investments and fully leverage today's software-driven capabilities.



Case study: Platform for cost reduction and innovation

WWT helped a large banking and financial services organization establish a fixed price, multi-year enterprise agreement for Cisco hardware and software. The EA provided for discounts on hardware and maintenance and a portfolio of software and tools, with WWT managing all ordering, shipping, maintenance processes and reporting on consumption. The customer also had access to many ATC lab resources and adoption services.

Initial EA results

WWT helped the customer improve its procurement process and reduce product lead time by optimizing procedures for product quoting, order management and delivery and coordination. The customer also realized cost reduction and cost avoidance by utilizing WWT's ATC lab environment to evaluate Cisco technology in support of a wide range of IT initiatives, including operational and line of business projects. Finally, the customer improved user

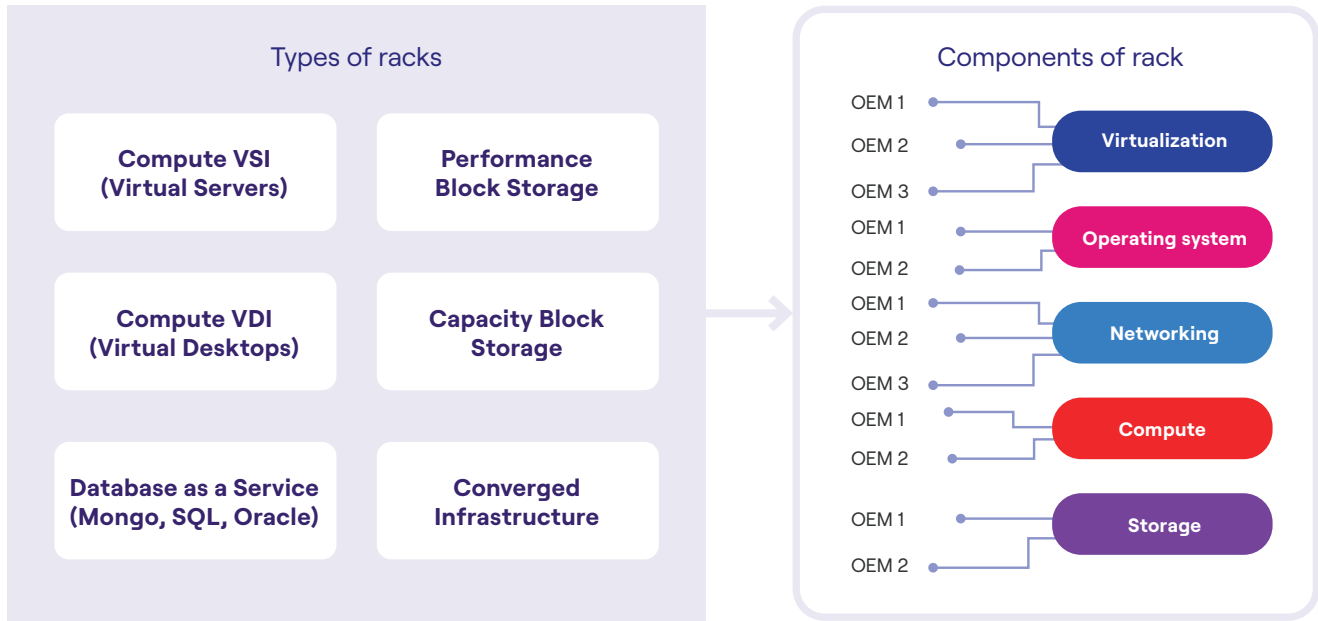
adoption by leveraging WWT's training resources. This enabled teams to gain access to new equipment, learn features hands on and understand how new technology would function in an environment closely replicating existing production conditions.

Solution development

The agreement expanded to focus on developing solutions that leverage the full suite and functionality of Cisco's growing software platform. WWT's support of the EA helped the customer ensure maintenance of its state-of-the-art technology footprint, while also reducing overall total cost of ownership and decreasing the complexity of operational support. The EA also became a platform for innovation, enabling the customer to explore the Art of the Possible by leveraging a broader scope of resources and capabilities available to them through WWT and Cisco.

NGE: Modular approach to architecting software-defined infrastructure

WWT offers an end-to-end solution for NextGen Engineered systems that enables organizations to rapidly build and deploy customized rack solutions, based on flexible reference architectures that are OEM independent.



NGE helps customers deliver services to lines of business on demand and at global scale

Case study: Custom-built NGE for global bank

In 2019, WWT began working with a global banking organization to develop a NextGen Engineered (NGE) system program that would enable streamlined, rapid deployment of custom built rack solutions. The customer needed to address challenges ranging from maintaining quality and consistency to reducing provisioning time to lowering costs. Most importantly, it needed to accelerate time to market and focus more on supporting the organization's core business instead of engineering and building rack infrastructure.

Solution

WWT collaborated with the customer to develop an NGE portfolio, purposely designed and sized to support different workloads. Solutions within the portfolio included:

- **Compute Virtual Server Infrastructure (VSI):** 283 racks (Dell, HPE, Cisco, Arista, NSX-T)

- **Compute Virtual Desktop Infrastructure (VDI):** 36 racks (Dell, HPE, Cisco, Arista, NSX-T)
- **Capacity Storage:** 132 racks (vSAN, Excelero, Datero, Ontap Select)
- **Private Cloud (IaaS & DBaaS):** 399 racks (Oracle, MS SQL, Mongo)

Additionally, WWT helped the customer develop a roadmap for moving the NGE program into production, including deployment and architectural updates supported by WWT's ATC lab services.

Result

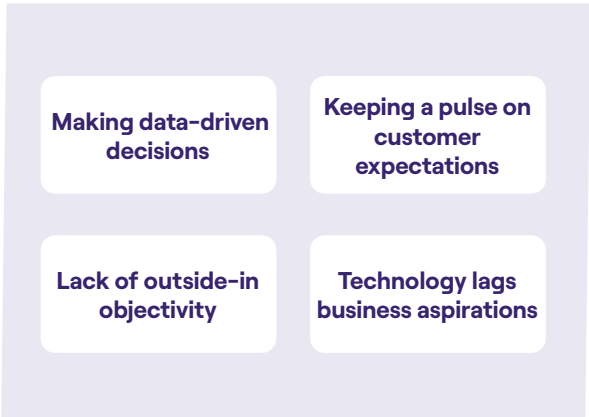
The NGE program enabled the customer to accelerate time to market, reducing the PO to production interval from 31 weeks to 6 days. The program also helped the customer achieve global architectural compliance and produced financial savings ranging from 37% to 48% (brownfield) and 15% to 20% (greenfield).

Procurement lifecycle services

Today, procurement stakeholders face more challenges than ever before

In the face of disruption, **business** is being forced to create new revenue models and customer acquisition strategies.

To keep up with business needs, **procurement** must enable faster consumption and adoption while delivering positive economic returns.



Business Challenges



Procurement Challenges

There's a better alternative.

WWT's business model addresses these challenges head-on with:

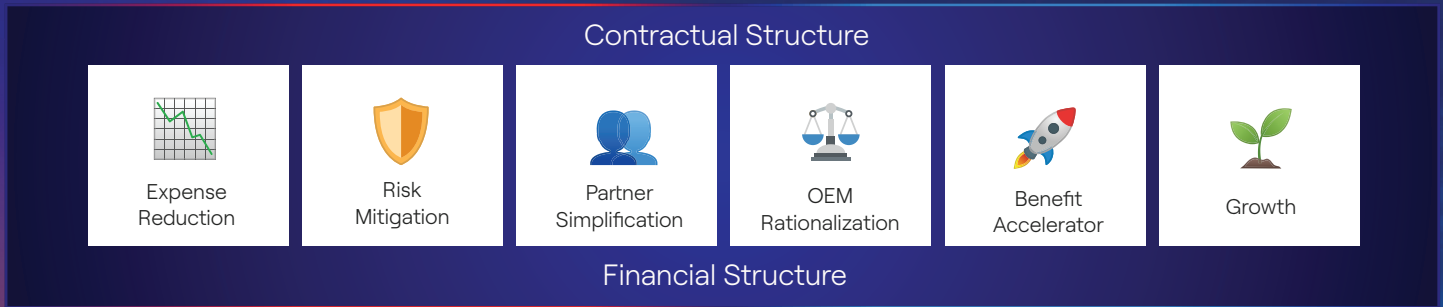
- Commercial innovation
- Spend optimization and rationalization
- Alternative buying models or programs
- Market insights
- Technology independence
- De-risk technology decisions and changes
- Enablement of more frequent sourcing and benchmarking events
- Technology on-boarding and exit



Unmatched multi-site expertise

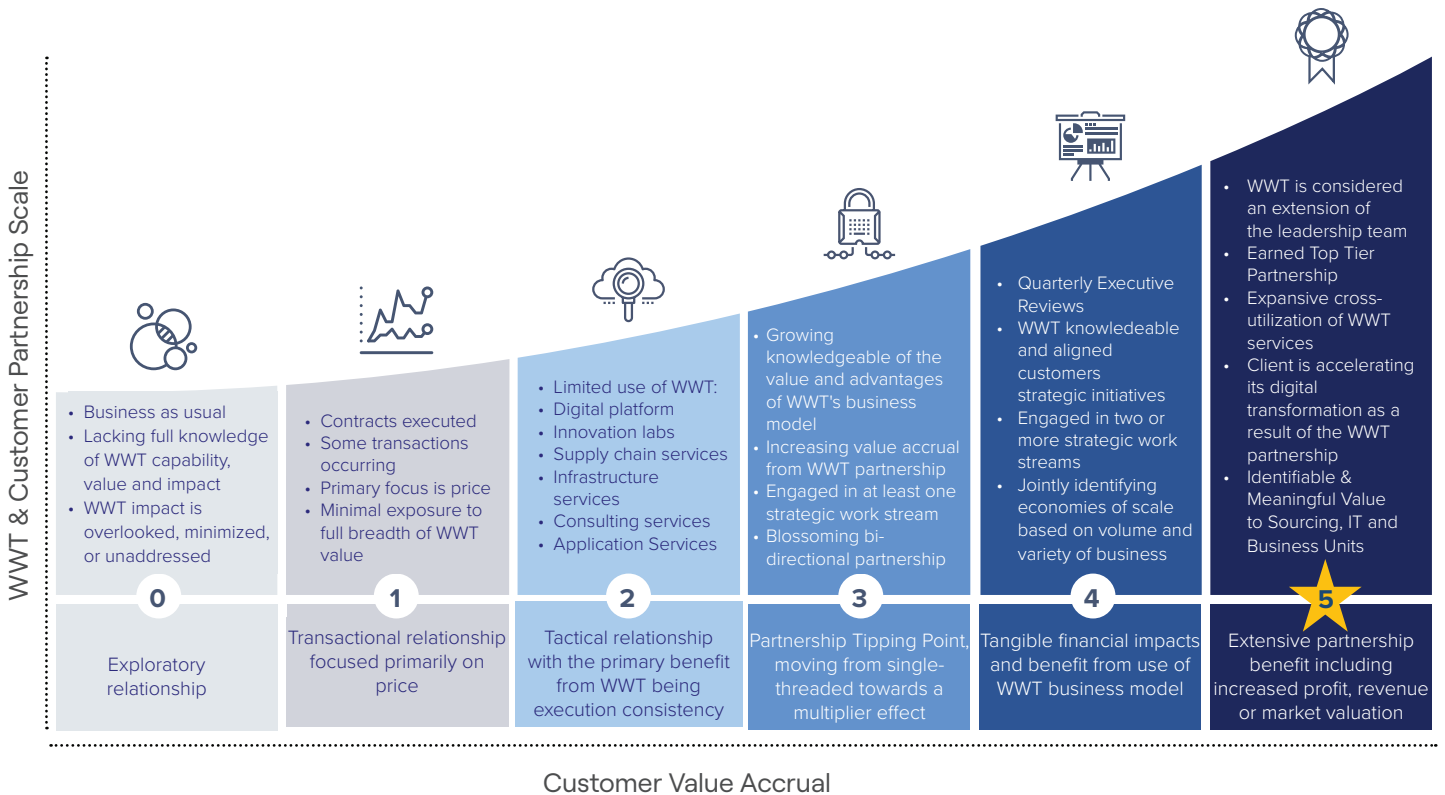
WWT's extensive experience in multi-site deployments derives from years of working to coordinate the planning, design, implementation and support of numerous multi-location projects focused primarily on network upgrades and installations. In developing a mature multi-site deployment program, WWT has integrated the experience gained during these projects, along with key resources and capabilities, to create an offering that can be tailored to meet the requirements of organizations planning large-scale, multi-location initiatives.

WWT Delivering Financial Outcomes



WWT Customer Value Accrual

Our business model can drive positive financial benefit of 5% - 25%+ of annual technology spend.



NextGen cybersecurity

WWT understands that the maturity of a company’s security posture reflects the stability of its brand. Our security practice is made up of battle-tested security experts, including former CISOs and senior members of the intelligence community. We also maintain relationships with more than 90 leading security OEMs.

A holistic approach to security transformation

WWT’s approach to security transformation is holistic, outcome-focused and incorporates multi-domain expertise that leverages our consultative and engineering capabilities. We not only provision solutions, but also integrate OEM products and deliver strategic, security-focused services.

Security labs in the ATC

WWT’s security labs in the ATC enhance our role as a technology solution partner by providing resources that can be employed to accelerate a wide range of testing activities. The ATC offers access to hundreds of on demand labs, training resources and sandbox capabilities, including resources focused on:

- Security architecture
- Security operations
- Network security
- Cloud security
- Endpoint protection
- Enterprise segmentation
- Application assurance
- Identity and access management



Trends

- Extract value out of current investments
- Develop cyber resilience strategy
- Maintain foundational security
- Mitigate risk while enabling remote work
- Design flexible Zero Trust architecture
- Secure multicloud adoption
- Innovate while maintaining compliance
- Simplify digital identity management

Security transformation expertise



Strategy



Technology



Scale

Security outcomes

ATC labs

- Lab as a Service
- PoC/Bake-off
- Design validations
- Malware lab
- Cyber range

Advisory

- Assessments and roadmaps
- Architecture and operations
- Enterprise segmentation
- Cyber resilience
- Portfolio rationalization

Implementation

- Security transformation
- Infrastructure modernization
- Operationalize processes and tools
- Secure supply chain
- Engineering and integration

Resources

- Strategic staffing
- Virtual services
- Managed services
- Executive advisors
- Global and scalable delivery model

Cyber resiliency

Cyber resilience is the degree of adaptiveness and responsiveness that an organization has in defending itself against a threat or failure within its digital business ecosystems. It is now a strategic requirement because it ensures that an organization's restored software and technology infrastructure/services are not only reliable, but also safe and accessible.

Phased approach to Cyber resiliency



Case study: Cyber resiliency at a Fortune 20

WWT partnered with one of the world's largest Fortune 20 customers to deliver a multi-tiered cyber resiliency solution.

Challenge

The Fortune 20 company required the ability to recover from a catastrophic cyber event. However, the company's current method was not working and was unable to meet the RTO. The company needed a validated method using of their existing technology to recover the entire environment, including the required network infrastructure.

Solution

WWT lead multi-day, multi-group workshops to develop a full cyber resiliency strategy. By engaging the WWT automaton and data center teams, the solution was able to meet the customers required RTO. The solution design was validated with a POC in the WWT's ATC. Using the NAIC, WWT was able to pre-build the solution and drastically reduce the amount of time required for

deployment. With a combined effort from the pre- and post-sales teams, WWT was also able to provide the customer with education and training throughout the project.

Result

WWT's holistic approach and depth of skills provided the customer with a solution that went beyond the data. Results included:

- Improved RPO/RTO from 7 days to 24 hours
- Ability to rapidly recover the entire production environment
- Automated testing and weekly reporting on the ability to recover the applications
- New business process and a cyber resiliency team to maintain the solution
- Custom monitoring solution with more intelligence
- Security automation to react to threats proactively

Tools rationalization

Many banks struggle with the common challenge of having too many tools with few of them integrated. This makes it hard to maximize budgets and realize the value of their investments. There are also security implications to digital transformation and cost reduction initiatives, especially when new products and services have embedded security. Security tools rationalization represents a key step in optimizing security investments to keep up with the expanding threat landscape.

Optimizing spend

CISOs have seen their budgets grow in recent years, as the landscape of security threats has expanded and become more complex. This growth in budgets has produced an unfortunate consequence, enabling security organizations to procure new tools, hoping to solve the myriad challenges they face. This situation has created a proliferation of tools that, at best, have overlapping functionality and may be redundant, and at worse may be undercutting overall budgets by increasing costs related to integration, training and maintenance. Tools rationalization can play an important role in addressing the situation CISOs now find themselves in, providing a foundation for badly needed spend optimization.



Applications — Operationalization — Security — Data — Network

Case study: Application rationalization for a healthcare organization

A healthcare organization, with a history of acquisition-based growth, had a sprawling and highly fragmented business application portfolio, which when combined with “cracks” in foundational data, made rationalization particularly challenging.

Challenge

The organization needed to institutionalize a data driven capability in order to identify, analyze and prioritize application rationalization opportunities and jump-start a programmatic approach to managing their business application portfolio.

Solution

In collaboration with the healthcare organization, WWT defined hypotheses and guardrails to identify application rationalization

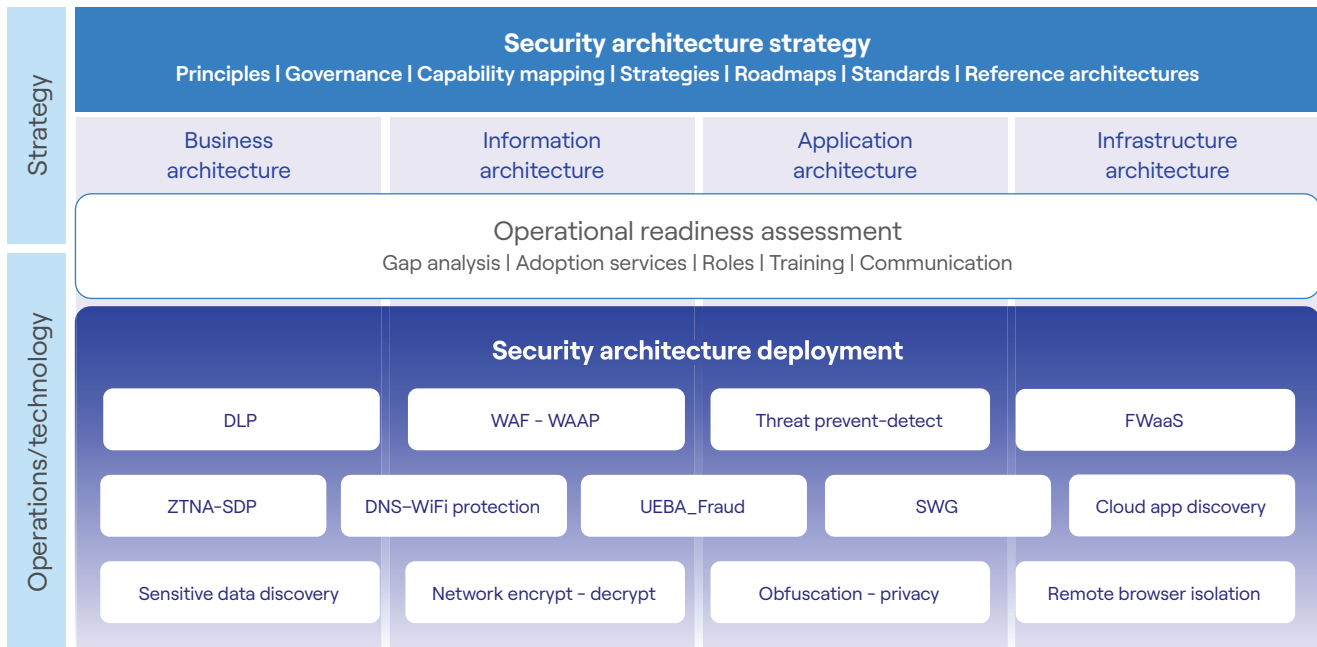
candidates as well as develop prioritization logic for the to-be-developed rationalization roadmap. WWT developed a “Datacube” to harmonize data from numerous sources representing application, infrastructure and financial information in order to analyze the data at the application instance level of granularity.

Result

The engagement resulted in a dynamically and systematically optimized IT ecosystem. With WWT’s help, the healthcare technology team is able to harness the power of application, infrastructure and financial data to repeatably inform decisions in pursuit of a more cost effective environment.

Security architecture

WWT helps banking and financial services organizations evaluate security solutions as part of an architecture-driven approach, which extracts maximum value from current solutions, reduces overhead and ultimately improves optimization and integration of security tools.



Case study: Driving cyber readiness for a large retail bank

Impacted by rapid organic growth, as well as several recent mergers and acquisitions, a large retail banking customer was challenged to transform their legacy infrastructure and operations.

Challenge

The retail banking customer was running on complex, sprawling, outdated legacy structures and needed to design, build and efficiently operate a resilient, agile, intelligent and automated infrastructure for the firm to both prevent and survive cyber extinction level events.

Solution

The customer partnered with WWT to create a holistic approach across all IT functions: network, storage, compute, security and operations. Software-defined networking (SDN) and load balancing was implemented to create a flexible application delivery fabric for infrastructure optimization and security. WWT's ATC was leveraged first to evaluate the latest technology within

each area as individual components and then as integrated solutions.

Result

The customer not only established an infrastructure to prevent and survive a catastrophic cybersecurity event, they also transformed their technology, processes and organization resulting in:

- Increased speed of innovation through creation of a hybrid cloud environment
- Mitigated risks which reduced system outages by 40 percent
- Avoided nine Severity 1 outages in the first six months of operations
- Reduced the initial project timeline by 50 percent by leveraging the ATC to build and test integrations and automated scripts
- Reduced cost of additional staff growth by 48 percent with infrastructure automation

Hybrid multicloud

WWT’s approach to hybrid multicloud focuses on enabling consumers to access IT services in a flexible manner by applying design principles that produce cloud resiliency and create optionality with regard to hosting environments.

Why financial services organizations are moving to hybrid multicloud

Hybrid multicloud architectures operate at the intersection of innovation and value, enabling banks and financial services organizations to respond to several business drivers. First and foremost, lines of business can quickly consume the services they need to develop customer-facing experiences that differentiate and disrupt. Additionally, operational teams can use infrastructure as code to provision services at scale, while also optimizing the supply of resources across a wide range of providers, based on consumption characteristics.

Since it appears safe to assume the business needs of banks and financial services companies will continue to evolve rapidly, WWT sees hybrid multicloud architecture as essential in helping these organizations successfully respond to new opportunities.

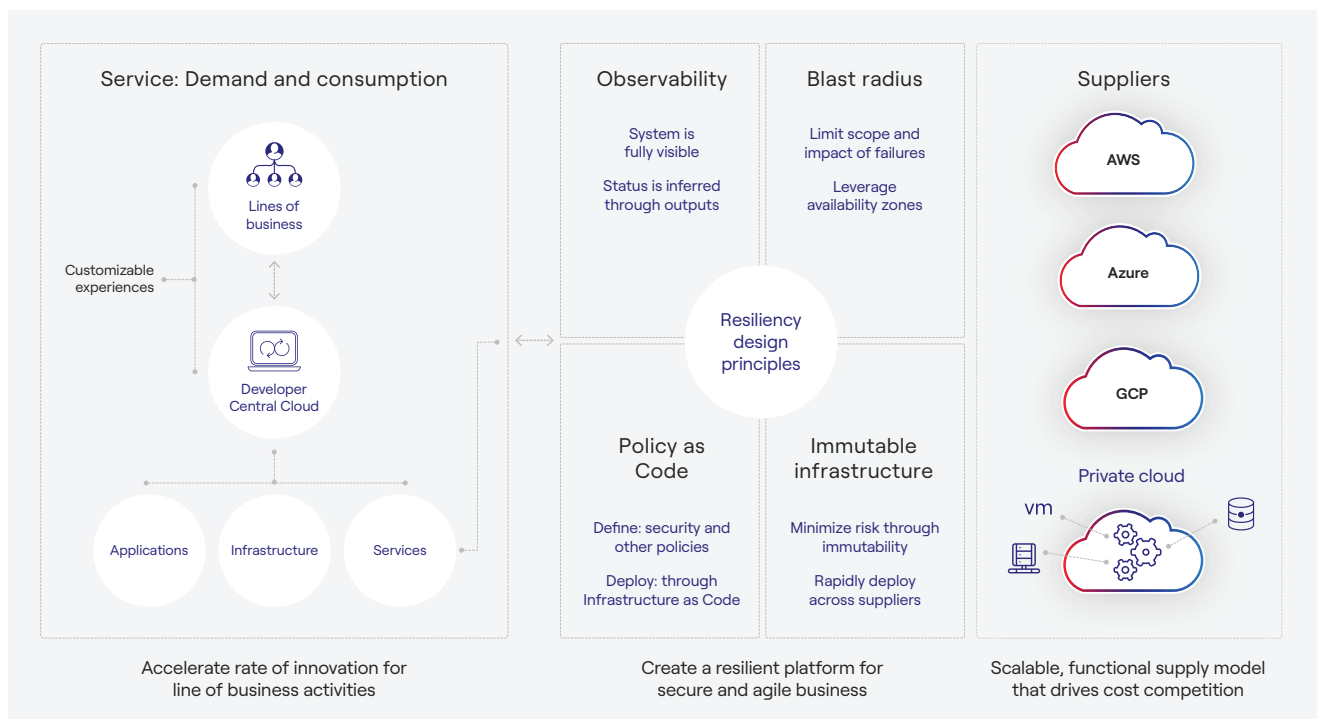


Trends

The tools and resources are now available to enable banks to focus equally on internal clouds, external clouds and cloud native architectures

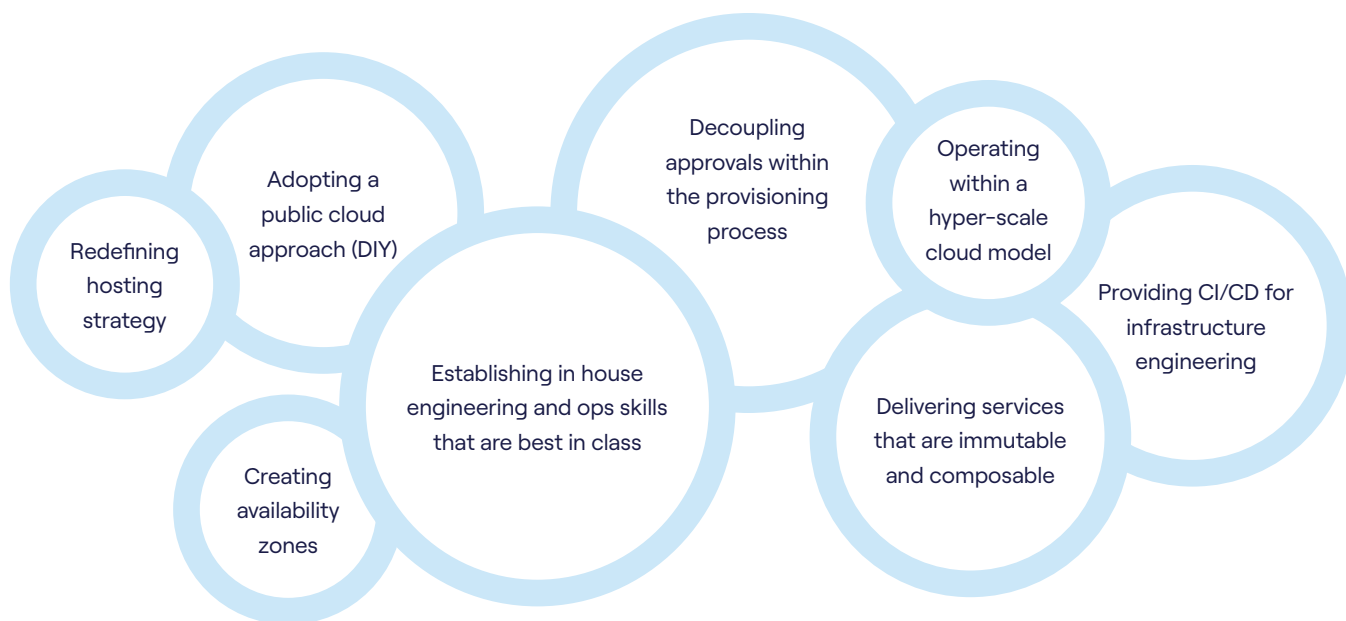
Hybrid multicloud adoption requires a workload placement as a service strategy

The paradigm shift to cloud resiliency is based on new design principles such as blast radius containment, policy-as-code, immutable infrastructure and observability



Developer central cloud

Banking and financial services organizations seeking to more easily create innovative and customizable customer-facing experiences require a new paradigm for service consumption. WWT sees the developer central cloud concept as the new paradigm for how service consumption can be experienced when it is enabled by a well thought out and executed hybrid multicloud strategy.



Customizable experiences

Lines of business are generating increasing demand for IT services, as they respond to a wide range of drivers and challenges related to digital transformation. A well thought out and executed hybrid multicloud strategy can enable developers to consume IT services in a manner that not only meets demand from lines of business but redefines the delivery of services.

An evolution in service consumption

The developer central cloud concept represents an evolution in the consumption of IT services. It expands the customer engagement model with self-service capabilities that enable service catalogs, mobile and API consumption. WWT's approach to creating developer central clouds begins by defining the end-to-end lifecycles that will facilitate service consumption and the deployment of customizable, customer-facing experiences. These definitions must account for the unique flexibility, scalability or performance requirements of the customizable experiences being created.

People, processes and technology

WWT has expertise in key areas that enable the cultural shift associated with the move to a developer central cloud.

Strategy and assessments: Enabling development and infrastructure teams to deliver new services with speed and stability

Container platforms: Creating well-adopted DevOps platforms that can quickly adapt to changing business needs

Infrastructure as code: Utilizing software development practices to manage infrastructure

Continuous delivery: The ability to get changes of all types into the hands of users safely and quickly

Developer enablement: Enabling development teams to build, test, release and run software

Principles of design for hybrid multicloud resiliency

Creating a resilient hybrid multicloud foundation that enables continuous access to innovative service offerings, delivers a cloud-like user experience for developers and provides for data security requires a new architectural approach supported by key design principles. WWT helps companies adopt and apply these principles as part of the shift toward the new paradigm of cloud resiliency.

Observability

This principle guides design to ensure that the internal system state can be inferred through observation. Designs should factor for the depth of public cloud visibility and the ability to correlate across layers (infrastructure, cloud services, network and applications). Solutions should be standards-based, support Infrastructure as Code based deployment, provide resolution and granularity and have the ability to match growth and auto-scale without impaired resolution or functionality.

Key area of focus: Cloud network resilience and observability

Designs should account for configuration management, path assurance, packet analysis and orchestration.

Blast radius

Resiliency depends on the design concept of blast radius in order limit the scope and impact of failures. The principle leverages physical availability zones and implements circuit breakers in applications to limit the blast radius of an incident. Availability zones are independent facilities with dedicated capabilities. Application circuit breakers enable graceful service degradation rather than a complete failure.

Key area of focus: Designing solutions that provide reliable services

By assuming failures are inevitable, design can minimize an incident's blast radius and increase overall reliability.

Policy as code

This principle supports the treatment of policy as code by creating ways to define policies and mechanisms to enforce them. It can be seen as an extension of DevOps in that it enables self-service. Policy as code designs leverage Infrastructure as Code (IaC) frameworks and utilize policy configuration files to scan code for compliance prior to deployment. By moving security policy into code, cloud resiliency can be improved.

Key focus area: Increasing security and scalability

Using policy as code not only improves security, it also adds to scalability by employing reusable code.

Immutable infrastructure

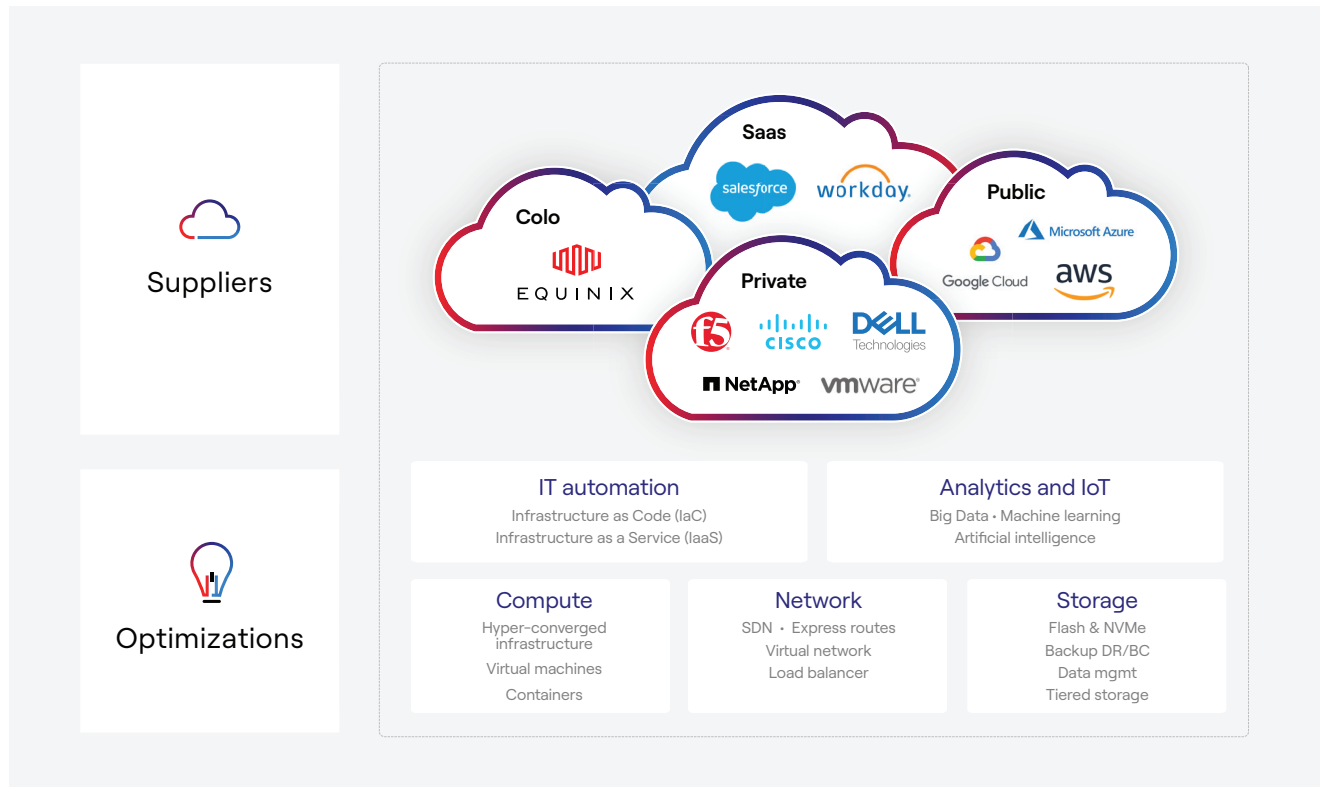
Using Infrastructure as Code (IaC), cloud solutions can be designed to minimize the risk of "in place changes" and to allow for "repaving" in order to minimize drift. Designs utilize high level components, including private module registries and workspaces, that are integrated with a version control system. App and IT teams become code contributors, operating in a decentralized manner to contribute to composable workspaces.

Key focus area: Enabling more efficient pipelines

Build efficiency improves as infrastructure deployment is automated, consistent and repeatable.

Optimizing the cloud supply chain

Efforts to optimize the cloud supply chain begin by focusing on how best to enable support for both public and private cloud infrastructure and apps.



Overview

Cloud supply chain optimization prioritizes the consumption of cloud resources based on ease of access, functionality, cost and security. As companies move away from pre-reservation models of consumption and seek to enable just-in-time provisioning, they must constantly calibrate workload deployment based on these factors. However, these calibrations have grown too complex to orchestrate with traditional tools and processes, driving demand for new solutions.

WWT's approach

WWT solves this problem by providing vetted solutions across metering, monitoring, ITOps, AIOps and security. Our approach enables companies to provision workloads in a manner that

optimizes the supply of services based on duration. For instance, workloads with shorter life-spans (e.g. two hours to two days) are better suited for external cloud provisioning and in doing so, IT avoids incurring the internal tech debt required to offer necessary services.

WWT's expertise

This is just one example of how WWT optimizes cloud supply chains. We leverage expertise across DevOps transformation, container platforms, Infrastructure as Code (IaC) and Continuous Integration/Continuous Delivery (CI/CD) to provide customers with bespoke solutions that transform consumption efficiency

Digital transformation

2020 saw digital transformation accelerate across the banking industry. Employees suddenly needed to work from home and customers could only access services through digital channels. In 2021, digital transformation has expanded, leading to digital business models that support hybrid work models for employees, NextGen omnichannel access for customers and pervasive automation and AI across the enterprise.

Transformational impact on productivity

While IT leaders have a green light to accelerate digital transformation, they do not have a blank check to deliver solutions. This situation increases the need to drive productivity and reassign existing funds to support innovation.

Key enabler: Automation

Automation has emerged as a key enabler of cost efficiency, as well as faster time to market. However, organizations are finding it challenging to peel back the layers of automation, which include infrastructure provisioning, configuration, DevOps enablement and upskilling employees.

WWT's approach

The sophisticated expertise needed to utilize data science to support advanced forms of IT automation, such as deep pools of AI/ML talent, often exist within the business teams of banking organizations but are less available within IT. WWT's mix of engineering depth and data science expertise enables us to accelerate the journey towards Intelligent IT Ops Management, including deployment of Application Performance Management and AIOps solutions. We are also helping our customers build on-



Trends

Digital transformation now has a triple focus: customers, employees and products/services

Pervasive data science is being adopted across business and IT, including tailored products, smart customer support bots and AI-enabled Operations (AIOps)

Upskilling is a top priority for IT leaders seeking to deploy advanced automation solutions that capture cost efficiencies

demand AI as a Service platforms, providing hardware, software stack and support services. To meet the needs of IT leaders who must upskill their employees to match the demands of today's emerging digital reality, WWT provides mentoring and hands on training, leveraging our state of the art ATC Innovation Lab. These services enables customers to simultaneously accelerate innovation and upskill their workforces.

Unique value prop

Idea to Outcome - "One hand to shake"

Vision/strategy/planning, Implementation and Day 2 support

Holistic - "Designed for success"

Design thinking (persona, user experience Tech architecture, Security app dev, operations design, AIOps, Supply chain management

Evergreen - "Anti-Fragile"

Agile and DevOps principles Built for change

Differentiated assets

ATC (mega testing and innovation lab

Digital design and agile AppDev practice

Extensive workspace services OEM network

Deep engineering services Ops, AI/ML, adoption services & security expertise

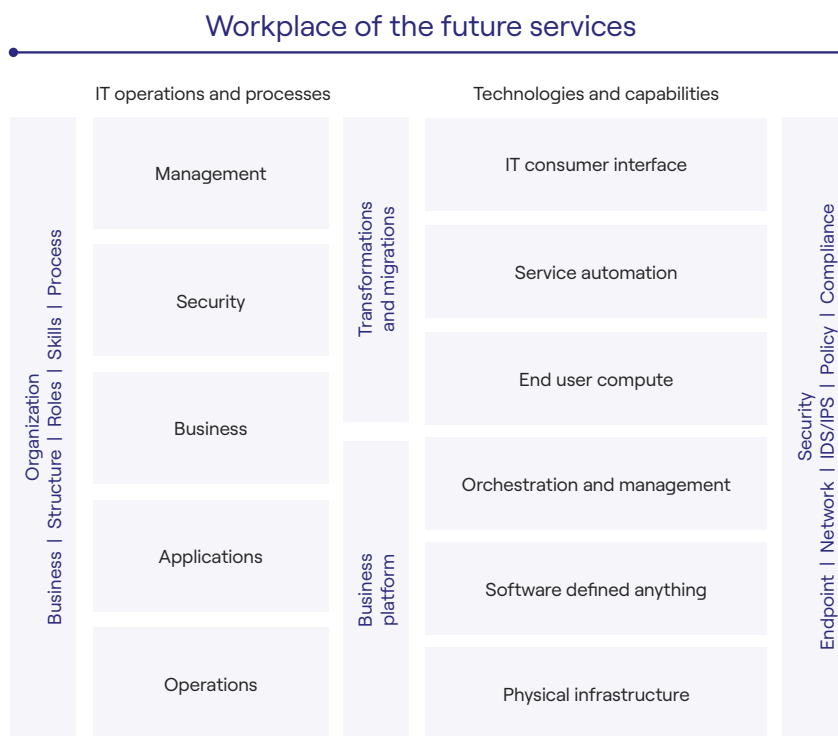
Global services delivery and SCM capability

Workplace of the future

The Covid-19 pandemic accelerated by at least two years the advent of a “new normal” work model, in which companies view their physical offices primarily as in-person meeting places rather than default work locations. This shift toward a hybrid model of work is driving a redesign of the work experience, both at home and in the office.

WWT’s approach

WWT approaches workplace of the future solutions by modernizing key technologies and capabilities, as well as IT operations and processes. Our holistic approach also solves for important trends, such as the need for cloud-based network security models (e.g. SASE) that support risk based security strategies while also reducing latency and improving performance.



Case study: Transforming a global financial company’s end user environment

WWT supported an effort by a global financial services and investment banking company to achieve cost savings through workforce productivity. The initiative focused on mobilizing the organization’s global workforce and empowering employees to work from offices, homes or on the road, using tablets and smartphones as well laptops.

Challenge

The company needed to transform their end user environment to support a more agile, modern and innovative way of working. This meant overcoming challenges associated with the organization’s legacy environment. In addition to physical device-centric hardware, heavyweight profiles, poor logon performance and inconsistent platform stability, the environment had little self-service and teams faced lengthy approvals for software deployment, along with disparate and limited mobility and remote access options.

Solution

WWT helped the customer plan, design and deploy a solution, developing and executing multiple workstreams that included the

accelerated delivery of a new VDI environment, a next-generation UC platform, a new self-service “App Store” and self-service tooling.

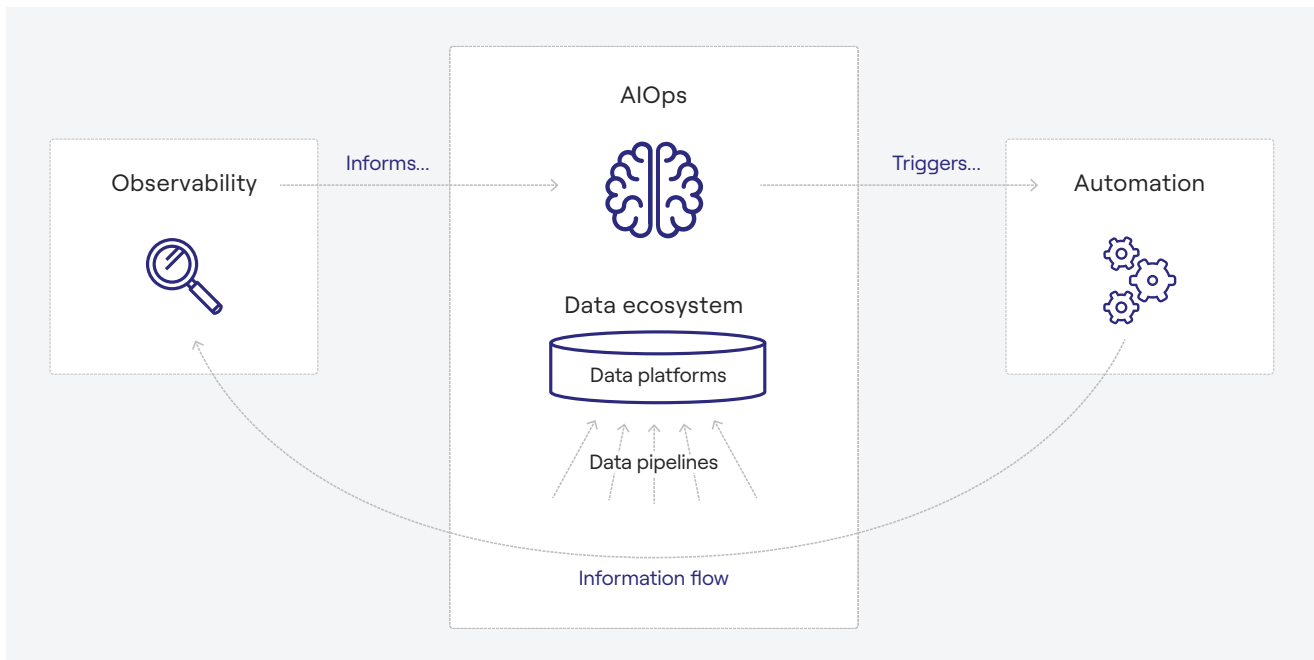
WWT partnered with the customer in joint ideation sessions to generate a blueprint for a high-performing, homogeneous end-user workspace experience. The solution covered 72,000 users in over 65 countries. WWT assembled a team of business and technology Subject Matter Experts (SMEs) to accomplish the program’s workstreams and ultimately deliver the global workspace solution.

Result

The customer now operates across its global locations with a single high-performing workspace. With the ability to deliver innovative applications, employees and teams can collaborate from any location while limiting data residency to the data center instead of on local devices.

AIOps

AIOps serves as the brains of IT operations, leveraging past patterns to develop future predictions and prescribe actions for a company's technology ecosystem to maintain health. Automation, which included scripts and logic to mimic repetitive tasks, provides information that enables observability, including views of real-time and historical behavior, as well as root-cause analysis displayed as descriptive analytics in dashboards.



Foundational support for AIOps use cases

WWT's approach to developing and implementing AIOps solutions focuses on building foundational capabilities to support key use cases.

Ticket WIP: Triage, linking and prioritization

WWT advocates beginning with simpler use cases, such as resolving support tickets that have already been submitted. The AIOps solution, Smart Priority, accelerates resolution using a model-based prioritization methodology, based on system data aggregation. The recommended resolution type/category is then proposed. This also establishes a starting point for future "self-healing" capabilities.

Pre-Ticket notification

Moving into more complex uses cases, organization can build "hyper" ticketing engines that reduce redundancy and filter "false-positives," such as duplicates and less critical alarms, that have inappropriately tagged into higher tiers. This use case clusters related ticket alarms together to create hyper tickets.

Monitoring

An advanced AIOps use case supports issue monitoring by detecting problem and accelerating early diagnosis. This solution identifies hyper ticket root causes through DAG & Pearlman framework and employs predictive models to alert prior to the creation of a ticket problem ID.

Case study: AIOps solution for global financial services firm

In 2020, a global financial services firm asked WWT to support its effort to become a more data-driven organization, specifically with regard to the operation of its technology footprint. The engagement focused initially on developing the ability to apply AIOps to improve IT service delivery.

After consulting with the customer, WWT proposed an AIOps acceleration initiative, the first phase of which would identify

use cases that would support the establishment of an intelligent technology environment and deliver practical results.

WWT's approach

WWT assembled an AIOps accelerator project team, comprised of a senior engagement manager, data scientists, principle architects and cloud application architects. WWT looked at the fundamental challenges facing the customer and delivered a proposed solution.

Solution overview

In developing a proposed solution, WWT aimed to create a program vision. It is critical to define what is to be facilitated and this can only be done by collaborating closely with customer teams to understand their challenges, goals and related ideas.

Use case: Reduced Mean Time to Recovery (MTTR)

WWT found that the customer's command center representatives were being inundated with support request tickets and were using manual processes to piece together the support description, including what happened, why it happened and how best to remediate. This was resulting in longer MTTR.

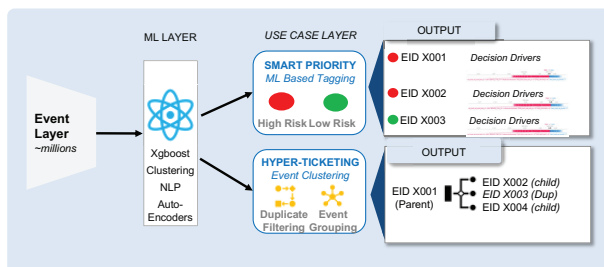
WWT proposal

By introducing AI-based methodologies into the event -> ticket pipeline, the customer command center team could "reduce the noise" of the request process and surface the most critical incidents. AI-based methodologies included support for streaming telemetry and ML-based anomaly detection. The use case WWT defined and proposed would deliver better decision making and improve support processes.

Use case: Improved forecasting accuracy

By improving its ability to forecast demand for technology infrastructure, including compute, storage and memory, the customer could improve the efficiency of its sourcing and better meet the needs of the business. However, the existing methodology forecasted solely on past usage, leading to highly inaccurate procurement efforts.

WWT's proposed use case involved developing an AI-based model that incorporates demand-side signals and is updated regularly to provide more accurate forecasts.



Strategic resourcing

WWT offers a flexible approach to meet the resourcing needs of enterprise IT organizations. Our bespoke resourcing solutions enable customers to better plan for and optimize their workforce models. Engagements can be short or long term and utilize a hybrid of onsite, offshore and remote resources. WWT is also a diversity and inclusion advocate.

Of the 1,000s of consultants WWT places yearly, 90% are renewed or re-deployed by our customers

Highlights of WWT's strategic resourcing service

WWT has consultants deployed into 250 FTSE organizations and 100 of Fortune 500 companies. We also have concurrent staffing projects across 30 countries. All resources are WWT vetted with reach back into WWT's Engineering Centers of Excellence, as well as our Advanced Technology Center (ATC). Highlights include:

Pre-screened resource. WWT applies a rigorous screening process involving HR, compliance and leading industry architects.

Fast bench. Strong relationships are maintained with our consultants and partners in order to deploy faster.

Global support. Our resources are backed by more than 3,000 certified WWT engineers and technical experts including CCIE level.

On-going support. A support team is provided to manage the SME and engagement.

Wide range of skillsets. From CXO level consultants to engineers, spanning the full array of technologies.

Differentiating partnerships. Customers benefit from a range of resources thanks to WWT's leading partnership with the world's largest OEMs.

Predictable financials. WWT is able to provide rate cards and volume discounts to reduce overhead costs.

WWT platform. Customers have access to our best in class training and lab environments.



Strategic resourcing case study

In 2019, WWT provided a strategic resourcing solution to one of our U.S. based global banking and financial services customers, building on the success of several lab services, supply chain optimization and cloud consulting engagements. The customer saw an opportunity to leverage WWT as a single services partner for several of its global multi-pronged programs.

WWT's approach

WWT understood the need to offer flexible contracting vehicles that would enable the customer to utilize our solution while operating within existing budget constraints. This ability factored significantly in WWT's value proposition, in addition to the following:

- An ability to operate at global scale
- A willingness to share relevant ideas and innovation
- A quality and comprehensive staffing model
- A high degree of experience supporting complex and transformational projects

After winning the opportunity, WWT provided 24 strategic resources, supporting end user technology, mobility, cloud and networking initiatives.

Services expansion

WWT reacted quickly to the needs of the customer, solving challenges related to both particular outcomes and general objectives, such as preventing downtime. This responsiveness earned WWT the chance to expand our strategic resourcing contribution in 2020. The customer applied these resources to a wide range of initiatives, including DevOps, security and application performance.

Results

As 2021 began, the customer was looking to WWT to double its strategic resourcing contribution, as well as to provide thought leadership on efforts to improve the performance of IT operations through the use of Artificial Intelligence (AIOps).

The customer indicated that WWT's growing role was based on the ability to ensure the right teams were placed to meet requirements, as well as the ongoing effectiveness of these placements. WWT's end-to-end approach had also driven high levels of trust in the strategic resources placed.

In one year, WWT quadrupled its placement of strategic resources at a global financial services firm by demonstrating the ability to both place effective teams and quickly scale to meet demand

OEM partnerships

WWT partners with the world's leading technology manufacturers to amplify the value of their solutions. We maintain the highest levels of certification and feature a wide array of OEM products in our Advanced Technology Center (ATC). Our global supply chain operation is tightly integrated with our OEM Partners and has become a vital resource in helping our customers accelerate technology deployment.

Strategic partnerships



Advantage partnerships



Essential partnerships



Who we are



Founded in 1990, by Jim Kavanaugh, CEO and Dave Steward, Chairman
 More than 7,000 employees and offices in 20 countries around the world
 Nine years in a row on FORTUNE "100 Best Companies to Work For" list
 Top partner with Cisco, HPE, Dell Technologies, NetApp, F5, VMware, Palo Alto Networks, Cohesity, Fortinet and 20 others
 Winner of prestigious Webby Award for creating a digital experience for patient families of St. Jude Children's Research Hospital
 Five years in a row on FORTUNE "Best Workplaces in Technology" list
 Technology provider to 78 of the FORTUNE 100
 \$13.6 billion in revenue globally



Vision

To be the best technology solution provider in the world



Mission

To create a profitable growth company that is also a great place to work



Core values: THE PATH

Trust
In character and competency

Humility
Stay grounded; never forget where you come from

Embrace Change
Diversity of people and thought

Passion
A strong work ethic

Attitude
Be positive and open-minded

Team Player
Proactively share ideas

Honesty and Integrity
Adherence to high standards

Revenue growth

With nearly 13B in annual revenue, WWT is a financially strong, privately held technology solution provider.



Global community impact



Account team

Executive leadership



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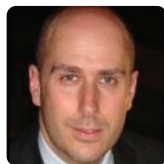
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Our people
and culture are
WWT's greatest
innovation

Make a new
world happen.