

REDUCE COSTS, ENHANCE FLEXIBILITY WITH WHITE BOX SOLUTIONS

Make smart decisions faster by leveraging WWT's testing, validation, integration and supply chain capabilities

Leverage WWT's extensive ATC ecosystem to integrate white box solutions at scale.

Global service providers are under immense pressure to transform into more agile operators while continuously driving costs out of their business models. White box solutions accomplish both and best position service providers heading into the competitive 5G economy.

Disaggregating software from hardware allows service providers to realize cost savings by deploying original design manufacturer (ODM) equipment while leveraging the power of software to become a more nimble operator that can provide best-of-breed solutions tailored to industry verticals.

EASIER SAID THAN DONE

As simple as it may sound, white box is complicated. Service providers desire the value white box can deliver, but typically can't commit to the labor-intensive processes needed to validate and deploy white box solutions effectively nor are they able to dedicate the time or resources needed for ongoing support.

Deploying white box-based solutions is building something new and unknown. Operators need an experienced integrator that can oversee multi-vendor solutions, validate and ensure design requirements are met, rollout the solution quickly at scale, optimize the solution on an ongoing basis and provide technical support across multiple ODMs.

WWT STITCHES IT ALL TOGETHER

World Wide Technology (WWT) has decades of network architecture experience from end point and customer premise equipment (CPE) to the service provider core network. This allows WWT to help customers create effective solutions faster and deploy them at scale so service providers can more quickly monetize the services they provide end customers.

WWT's rich network of hardware and software partners along with the extensive technical capabilities in our Advanced Technology Center (ATC), where our technology partners have invested more than \$500 million to showcase their products, can help eliminate risk and provide multi-vendor flexibility during white box solution deployment. Once validated, WWT can build the solution at scale and ship to a customer's desired location.

WWT has helped customers deploy white box solutions at scale for customers in over 20 countries across the globe.

Disaggregation Drivers:

- Lower Capex via Unit-Cost Reduction
- Lower Opex via Orchestration and Automation
- Faster Technology Insertion
- Flexibility in Network Design and Service Deployment
- Open Source Introduction
- Control Over Future Roadmap

WWT SOLUTION EXPERIENCE

HARDWARE	SOFTWARE	SOLUTION VALIDATION	SOLUTION CUSTOMIZATION	SUPPLY CHAIN & INSTALLATION MGMT.
<p>Extensive HW Partners</p> <p>IT Infra, Security Optical Mobile Devices WAN Routing Mobility</p>	<p>Full Stack SW Partners</p> <p>Access/Core 4G/5G Applications Orchestration Virtualization Automation Monitoring</p> <p>Adoption Services</p>	<p>Advanced Technology Center (ATC): Proof of Concept</p> <p>ATC: Continuous Solution Validation</p>	<p>Architect Teams API Integration Automation Integration User Portals Web Development Orchestration Customization</p>	<p>Global Integration Centers</p> <p>Facilities Teams Custom Secure Staging Inventory Mgmt. Custom Shipping Install/Turn-up</p>
SINGLE POINT OF CONTACT - MULTI-VENDOR BACKED SUPPORT				



CASE STUDY:

White Box Solution Validation For Tier 1 MSO/Cable Provider

CHALLENGES

- Multiple HW platforms in play for the final solution
- Complex Legacy Cloud — DVR solution appeared to be locked into a particular black box vendor
- Stringent, but in-flux, performance requirements with software-defined storage
- Desire to integrate testing methods with customer's benchmarking tools

WWT SOLUTIONS

- Recreated the customer's network and traffic load in the ATC
- Simulated complex workflows and customer traffic
- Integrated and rewrote parts of the customer's benchmarking tools with newer systems for a more complete testing solution that could accommodate new features

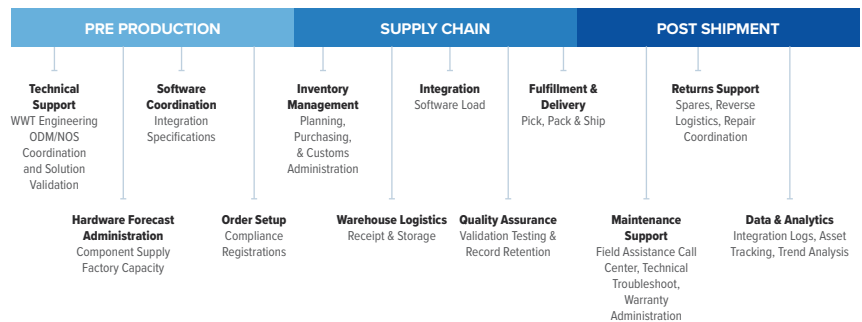
CUSTOMER OUTCOMES

- Proof of concept demonstrated and benchmarked the customer's solution on several black and white box infrastructures
- Helped the customer find a cost-effective white box solution that met their end customer's high expectations
- Delivered a test plan and automated test solution that the customer could reuse in WWT's or customer labs

THE ATC & GLOBAL INTEGRATION CENTER ADVANTAGE

The ATC is a collaborative ecosystem to design, build, educate, demonstrate and deploy innovative technology products and integrated architectural solutions. Cutting-edge testing tools can simulate service providers' complex networks so solutions will work as expected on day one. Customers can utilize the ATC for regression testing, use case testing or training for seamless solution implementation. Once validated, solutions can be integrated and deployed at scale through one of our three Global Integration Centers.

POST-PRODUCTION INTEGRATION VALUE ADD



PPI AND SUPPORT

WWT's post-production integration program is an end-to-end solution that incorporates procurement, validation, inventory management, integration and shipping. WWT's after-sale capabilities include 24/7 call center and reverse logistics support.

WWT is serving as Post-Production Integrator (PPI) to facilitate deployment of various disaggregated white box solutions for multiple use cases. WWT provides hands-on NOS and ODM integration, testing and distribution of the solution, affording the customer the freedom to focus on engineering and architecting the solution.

Through our ATC capabilities as well as integration and automation expertise, WWT can significantly reduce time to market, resulting in material cost and time savings for the customer.