Ethernet/IP Consulting and Professional Services

Overview
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Now that carrier Ethernet standards are progressing to maturity and the demand for data bandwidth continues to grow unabated, Ethernet services are rapidly replacing traditional leased line technologies, such as T1/E1 and Frame Relay, for both business enterprise and mobile backhaul connectivity. However, a myriad of differences remain in service deployment because of the use of various network topologies, access technologies, vendors, and alternate backhaul providers. These issues, along with imperfect implementations of key carrier Ethernet standards, a lack of Ethernet expertise in many field crews and operations groups, and a test equipment/system implementation plan that often lags the huge demand for service hand-off test verification, mean that mass deployment success is not always assured.

The JDSU suite of Ethernet/IP Consulting and Professional services employs certified consultants, trainers, program managers, and field engineers with leading test tools to provide deployment readiness, mass deployment, and operational support capabilities that accelerate and optimize risk-free Ethernet/IP service rollout. These capabilities built upon our carrier Ethernet testing experience assures right-first-time deployment and turn-up of new high-value services ‘en-masse’, enabling revenue streams and avoiding costly service level agreement (SLA) rebates.

Benefits

- Ensure successful Ethernet service deployments
- Drastically reduce repeat dispatches
- Uncover difficult-to-find performance issues before they hinder mass deployment
- Minimize service issues, such as dropped calls
- Maximize service application responsiveness
To support verification test and troubleshooting of carrier Ethernet, mobile backhaul, and IP virtual private network (VPN) services, JDSU can target three major areas in a typical network life cycle. We focus on the test and monitoring aspects in each area because they are often forgotten until too late in the life cycle; which can lead to costly re-engineering to support the requisite capabilities or a high degree of risk during service deployment. JDSU endeavors to achieve the quickest, most efficient path toward mass deployment while minimizing risk by providing the necessary test planning expertise early in the life cycle and following it through with optimal execution support.

In the planning, design and engineering, and installation and integration stages of the network life cycle, the deployment readiness phase is where we provide documented test methods and procedures that are used in field trials (after first office network builds) to prove out and optimize processes, scheduling, and resource requirements. The mass deployment phase typically begins near the end of the network build out where end-to-end services are provisioned (including Customer Premises/Demarcation Equipment) and verified as operating correctly, based on methods and procedures (M&Ps) developed during the deployment readiness phase. During the operations and maintenance stage of the network life cycle, problematic services may require troubleshooting test analysis to be performed in order to find the issue and remedy the fault.
Assessing test and monitoring capabilities before mass deployment is key to the successful rollout of complex Ethernet/IP services. Immature standards and varied implementations pose many problems for providing consistent test and monitoring capabilities that are essential to ensuring the performance and correct operating behavior of services. JDSU consultants provide a wide range of tasks covering test-specific analysis and process/document development including service specification ‘audit for testability’ design, test planning, procedure development, and detailed test results analysis.

Our professional field engineers support a wide range of Ethernet/IP test capabilities typically included in this phase such as the suite of tests commonly performed during a field trial/‘first office application’ of services. During this trial, we use experience gained and test results analysis to fine-tune the overall test plan and procedures to ensure the utmost in efficiency in mass deployment testing. The transition from legacy technologies, such as T1/E1, Frame Relay, and asynchronous transfer mode (ATM), to newer service options, such as carrier Ethernet/IP, presents a steep learning curve for many operations personnel and field technicians. The many complexities involved can cause problems and delays when the groups involved in deploying and maintaining carrier Ethernet and/or IP services lack the relevant level of knowledge and expertise. Therefore, JDSU firmly believes that targeted technology training is essential throughout the deployment readiness phase to properly prepare and empower personnel to deal with unforeseen issues that may arise.
Mass Deployment

While thorough deployment readiness is essential to properly prepare all workgroups for the mass deployment phase, it is also important to ensure consistent and accurate execution of the test plan and detailed test procedures. To that end, JDSU professional field engineers can be deployed to provide ‘on-the-job’ guided instruction training for targeted field crews during the first few service deployments, so that for future deployments they can perform provisioning verification test procedures themselves. For additional support, scheduling JDSU field engineers for on-site assistance of your field technicians’ first ‘solo’ service deployments will ensure all field operations teams are confident in carrying out the verification testing. Also, for particularly large and/or high turn-up rate deployments, JDSU can deploy on-call ‘in-field’ test assistance teams to tackle problematic locations.

If your existing field operations lack the resources (personnel, equipment, and/or time) to cope with a high rate of service turn-up during mass deployment, we can employ our field engineers to carry out the field verification test execution or schedule them to augment your operations’ capabilities during peak demand.
Even with thorough deployment readiness planning and consistent provisioning verification testing during mass deployment, problems may still occur during the operational in-service phase. Until your network and field operations groups have enough experience and operational knowledge of your network and services, you can deploy JDSU field engineers and consultants to troubleshoot complex issues or provide assistance to your existing technical support teams.
JDSU Suite of Ethernet/IP Consulting and Professional Services

**EtherReady**
EtherReady targets the deployment readiness and planning stage of the service life cycle, where test methods and procedures development is required and field trials are conducted to prove out and optimize processes, scheduling, and resource requirement assumptions. JDSU can provide Ethernet/IP service specification 'design-for-testing' and field test planning and procedure development consultation.

**EtherVerify**
EtherVerify targets the mass deployment of Ethernet/IP end-to-end services where test plan methodology and procedures are in place and services are installed, provisioned, and tested before being accepted. JDSU can provide field test crews to cover provisioning verification test execution needs or augment your existing field operations personnel. Additionally, we offer on-the-job guided instruction training to show existing field technicians how to consistently test to already-established procedures, helping field operations cope with the growing scale of Ethernet/IP services deployment. JDSU can further support this offering with field engineer ride-alongs and in-the-field troubleshooting crews for particular projects or high-service turn-up rate scenarios.

**EtherResolve**
EtherResolve supports troubleshooting Ethernet/IP services after they become operational. JDSU consultants provide expert initial problem analysis and design test and monitoring plans that JDSU field engineers execute. Detailed results analysis is continuously performed throughout the testing scenarios to quickly isolate Ethernet/IP issues and to derive the root cause. This service can help rapidly resolve individual issues or can be used with one or more standby troubleshooting teams if experiencing or expecting widespread problems during critical and/or large-scale projects.
Conclusion

Ethernet/IP Consulting and Professional Services
- Enable realization of Ethernet/IP services cost and operational benefits
- Ensure meeting of performance requirements
- Fill gaps in expertise/personnel/equipment
- Accelerate service deployment with JDSU support

People
- Decades of telecommunications experience
- Dedicated regional services teams with worldwide coverage
- Certified consultants and field engineers

Equipment
- Industry-leading JDSU test tools
- Calibration guaranteed and properly functioning

Process
- Proven consulting services processes developed over years of engagements worldwide
- Dedicated project manager assigned to each engagement
- Short lead time and high availability

Deliverables
- Planning documents, process charts, and supporting graphical information
- Comprehensive reports with results analysis and recommendations
- On-site execution of field test cases
- On-site and Web-hosted training classes

Please contact your local JDSU representative for further details concerning Ethernet/IP Consulting and Professional services or other related topics, such as Fiber Characterization, Optical Network Qualification, IP/MPLS Network Planning and Packet Synchronization.