

White Paper

INOVIS MESH FRAMEWORK FOR DIALTONE BUSINESS COMMUNITIES

Introduction

The business world always has focused on familiar challenges, from delivering a better product or service, capturing more market share and improving operating efficiencies to reducing costs and strengthening profits. However, corporations operating in today's marketplace face an additional and very tough challenge: complying with laws and regulations designed to ensure accurate financial reporting, protecting the privacy of user information and guaranteeing the security of business data.

Ongoing compliance with domestic and international regulations is a complex and expensive task, one requiring the time and talents of many people throughout a company. However, two even more basic requirements for regulatory compliance are a very reliable communications network and, as part of that, the highest-possible dialtone quality for B2B communications. To ensure they obtain both, more and more companies are entrusting their data — and their compliance responsibilities — to the Inovis Multienterprise Expert Services Hub (MESH) platform, which comprises systems and processes designed to be 100-percent available.

The topics included in this whitepaper are:

- I. Why "Good Enough" Won't Cut It
- II. What Makes a Dialtone Network?
- III. Outsourcing Quality, Compliance & Business Community Management

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Why “Good Enough” Won’t Cut It

Dialtone Quality is the Cornerstone of Network Reliability

For every business organization, regardless of size, regulatory compliance, not to mention competitive strength, depends in large part on its communications network. While network reach and speed obviously are important factors, overall network reliability is the most important criterion. "Network reliability" in today's world translates into the network being available--which is to say up and running smoothly and efficiently--99.995 percent of the time. Put another way, a reliable network is down no more than a total of 24 minutes each year.

Clearly a basic element of network reliability is the highest-possible dialtone quality, particularly when it comes to the B2B communications connectivity that drives data exchange within global business communities. The lifeblood of any global trading community is the information that flows among its individual member companies, and any interruption of that information flow can wreak immediate havoc with a corporation in any industry, regardless of whether it is a publicly-traded or private company.

Running Afoul of the Law

If the communications network or data center goes down, choking off the flow of that vital e-commerce information, the consequences ripple across multiple fronts, produce all kinds of financial and public-relations damage and ultimately can even turn an industry leader into a competitive also-ran. For instance, a loss of B2B communications or data-center operations means a company cannot comply with regulations governing information access, data security and accurate financial reporting, to name a few. As every member of the corporate-executive suite knows, the financial penalties for running afoul of such regulations as the Health Insurance Portability and Accountability Act (HIPAA) and the Sarbanes-Oxley Act are stiff. Those are only two examples of regulations in the United States; the number of financial, privacy and environmental regulations around the world is growing, and none offers any compliance exemptions due to network-reliability problems.

Disruptions to the Supply Chain

Then, of course, network downtime also means disruptions in the supply chain, leading to inventory mistakes, lost purchase orders, stock-outs, shut-downs of manufacturing lines and the inability to deliver goods on time. Such supply-chain disruptions inevitably devastate corporate performance, says Vinod Singhal, professor of operations management at Georgia Tech College of Management.

After analyzing more than 800 publicly-announced disruptions that occurred between 1989 to 2000, Singhal reported in 2005 that companies "continue to operate for at least two years at a lower performance level. It does not matter who caused the disruption, what the reason for the disruption was, what industry a firm belongs to, or when the disruption happened." Singhal also noted in his report that if many of the companies "had planned better," in terms of risk-management policies, they could have avoided the disruptions.

The Hits Just Keep on Coming

As noted earlier, the lack of quality in B2B connectivity and/or data-center operations typically has a ripple effect. The failure to comply with regulations, the supply-chain disruptions and the lower profits and performance levels can lead, in turn, to public-relations nightmares and the defection of customers, some of whom may never return. Clearly, all of these effects erode overall competitive capabilities, which further hurts performance, public relations and profits. It becomes a vicious cycle.

What Makes a Dialtone Network

The Requirement of Dialtone Quality

Companies that collaborate with business partners to achieve and sustain marketplace success understand that high-quality B2B communications is essential to that collaboration. Because network connectivity is the primary tool with which they manage their supply-chain activities, companies want B2B communications solutions that incorporate all the components of quality and reliability, including:

- a physical data-center facility;
- network security;
- network redundancy;
- complete network failover capabilities and processes, as well as applications that are designed properly to fail over automatically;
- geographic diversity;
- redundancy of the telecommunications platforms and links that support the network and applications; and
- a strict regimen of testing, planning, validation and more testing - all assets and processes must be rigorously tested under duress for failover and performance, and customers must validate a range of scenarios that could occur, because one wrong assumption or a single incorrect routing will render the platform unavailable.

Dialtone Quality is Based on a Quality Platform

Recognizing that the quality of information networks has a direct effect on the bottom line of customers and their trading partners, Inovis recently completed a two-year drive to upgrade all architectural and physical elements of its network and consolidate all customers onto a single, modern platform. Based on a new architecture, the Inovis Multienterprise Expert Services Hub (MESH) platform comprises systems and processes which are designed to be 100-percent available. In addition, the platform offers enhanced failover speeds, automation and overall redundancy. With maximum visibility and supplier score-card capabilities built into the MESH platform, customers have instant access to information on the status of transactions across the supply chain.

In June 2007, Inovis completed the seamless migration of its entire customer base to the MESH platform. The company's significant investment in planning, testing and validation prior to the migration enabled the migration to go off without a hitch. Currently, nearly 315,000 trading relationships are leveraging the significant improvements in reliability delivered by the Inovis MESH Platform to obtain the following benefits:

- The Inovis network is expected to be available 99.995 percent of the time, with a total of only 24 minutes of unplanned downtime annually;
- Applications are designed and expected to be available 99.999 percent of the time;
- There are no single points of failure in the self-healing MESH platform;
- Customers can reduce their costs;
- Customers can enhance their regulatory-compliance efforts - with Inovis' SAS-70 compliance;
- Can harden their security capabilities with managed community governance;
- Customers have more flexibility to acquire brands and seamlessly integrate them into their respective trading communities.

Dialtone Quality Resides in a World-class Data Center

As part of its strategic quality initiative, Inovis houses the MESH platform in the company's new Tier-IV data center, which complies with the Telecommunications Industry Association (TIA)-942 Telecommunications Infrastructure Standards. As such, the Tier-IV data center incorporates all the design features required for a high-availability, redundant, reliable and very secure environment. Specifically, the TIA-942 standards cover site space and layout; cabling infrastructure; tiered reliability; and environmental considerations.

The Tier-IV--or highest of the TIA-942 reliability categories--specifies a fault-tolerant data center with 99.995-percent availability and downtime of no more than 24 minutes per year. Tier-IV data centers also must be able to sustain at least one worst-case, unplanned event with no affect on the critical load, as well as provide multiple active power and cooling-distribution paths with redundant components.

By adhering to the Tier-VI specification of providing 99.995 percent uptime, the new Inovis data center represents a 90-percent incremental increase in available service time, relative to the 99.95-percent availability of Inovis' previous Tier-II data center.

Maintaining Quality Even When Disaster Strikes

With the understanding that it is impossible to prevent every single potential disaster, Inovis, also as part of its quality initiative, designed and implemented a strategy for ensuring that its customers can recover quickly from disaster. The company built its disaster-recovery (DR) strategy around four requirements:

- 100 percent of the customer base must be on a single, high-availability platform with independent switched-communications connectivity to an alternate site--an alternate site that is equally capable, not scaled down.
- Inovis must be able to synchronize its entire data base--configuration and documents--within minutes.
- The company must put in place the processes, controls and skill sets to test and validate disaster-recovery capabilities--and do so without affecting customers.
- Testing is critical. Having a site, a system and a synchronization link means nothing without also having switched-communications capabilities and a proven plan to switch traffic between the data center and a backup data center.
Inovis has tested its DR capabilities thoroughly.

The Inovis backup data center is geographically separate but synchronized with the primary data center. Inovis has subjected all of the backup data center's DR capabilities to rigorous testing, including live customer rollout. For example, a recent DR test using customers' live data produced a 24-minute recovery (vs. a 4-hour recovery point objective) and a recovery time of 1 hour and 35 minutes (vs. an objective recovery time of 4 hours);

Finally, to ensure the quality of its MESH platform, Tier-IV data center and DR capabilities, Inovis has successfully completed the Statement on Auditing Standards (SAS) No. 70, Service Organizations, Type II compliance audits. The SAS 70 is an internationally recognized auditing standard, developed by the American Institute of Certified Public Accountants (AICPA), which confirms that a services organization has completed an in-depth audit of its information technology and operational processes.

Optimum Service Levels, DR

The Inovis MESH platform, which incorporates best-of-breed tools and services, is the foundation of the Inovisworks and Managed Services applications. In addition to the data center, the MESH platform features redundant, geographically diverse communications routing between primary and backup production platforms, as well as best-of-breed tools such as Veritas VCS to manage server-node redundancy and BEA Weblogic to ensure logical-application redundancy and load balancing.

A layered approach to data protection begins with RAID technology at the lowest level to replicate all data among multiple hard drives. Above that, Oracle Data Guard protects and replicates databases and, at the very top, Network Appliance SNAP Suite protects and replicates file structures.

Supporting the data-protection layers is a fully redundant, auto-failover hardware platform, which comprises a balanced, auto-failover network and, for additional redundancy, a SUN IPMP computing-resource layer. Using a combination of industry-leading tools and the expert capabilities built into Inovis' hosted applications, we continuously monitor the entire MESH platform. At Inovis, we understand that you demand the highest-possible levels of network reliability and security for your data. We take great pride in the ability of the MESH platform to deliver exactly what you need, 24x7x365.

Outsourcing Quality, Compliance & Business Community Management

Build on Quality with Managed Services

Dialtone quality, which means the highest-possible reliability and availability of B2B connectivity, is the essential first layer of successful business collaboration in today's global marketplace. However, it is only the *first* layer, and leading companies across all vertical sectors recognize they must add more layers to that collaboration if their trading-partner communities are to succeed in the long run.

For example, integrating and managing diverse technologies, applications, workflows and processes is an enormous challenge. The B2B communications connectivity within any given trading community today no longer is limited to electronic data interchange (EDI) exchanges among a few select partners. As noted by analyst John Fontanella in a recent AMR Research article, the realm of B2B communications now consists of "a dizzying array of technology options that differ by industry mandates, trading-partner preferences, and markets served."

As a result, companies today must deploy scarce internal IT resources to maintain an increasingly complex B2B infrastructure so they can continue to do business with an ever-expanding trading-partner community. At the same time, however, they are under relentless pressure to contain costs and improve service levels. For obvious reasons, companies are looking for a solution that will reduce their costs of serving their customers and suppliers while at the same time ensuring they can satisfy the changing requirements of their trading partners.

Outsource the Hassles and Expense

Many such businesses have discovered that outsourcing the day-to-day management of their business communities tackles both challenges reliably and cost-effectively. For example, the comprehensive Inovis suite of managed services combines hosted technology, skilled professionals, transaction and partner management, new development and service-level protection. Collectively, they ensure that business partners can exchange transactions securely and seamlessly, even if they have different data, business process and network/connectivity standards.

Further, because today's business environment includes both legacy and emerging standards and processes, an outsourcing partner such as Inovis can help a company put together the right team and technology to manage its trading community's various requirements--as they are today and as they evolve over time.

Customers of managed services such as those offered by Inovis achieve benefits, including:

- service depth and breadth - from on-network EDI and XML data translation, event-based choreography and hosted Web forms to a wide array of connectivity choices;
- eliminates ongoing platform updates, software additions and investments in additional resources;

- maximum return on investment - significant reduction in or outright elimination of the fixed costs of maintaining in-house EDI operations, enabling the customer to focus corporate resources on core business activities; and
- scalability and flexibility - via an enterprise-class, state-of-the-art infrastructure.

Managed B2B Services Tailored to Each Customer

Experienced industry partners such as Inovis recognize there is no one-size-fits-all solution to the enormous variety of B2B requirements in the marketplace. As a result, Inovis's managed services are designed to provide flexible connectivity and routing options that satisfy each customer's unique business requirements:

- **Batch** - By simply connecting to the mailbox, a customer can easily initiate a session to send and receive data. This familiar, low-cost approach supports asynchronous messaging such as EDI.
- **Event-driven** - The option of choice for companies with timing issues imposed by their business needs. With event-driven integration, the customer or Inovis can initiate a data-transfer session easily. Typically, the presence of data--the "event"--triggers a connection and the transfer of information.
- **Real time** - For many new interfaces such as Web Services, the customer provides a request/response interaction with trading partners, for example, an available-to-promise (ATP) Web Service requires a real-time inventory look-up. Inovis can handle this for the customer via application-direct integration. A provided adapter, which resides next to the customer's back-end application, handles real-time dialog with that application and communicates securely with Inovis' managed services.
- **Mailbox access** - With this service, a customer's business partners are responsible for initiating sessions to send and receive data, which they can do easily, simply by connecting to their mailboxes.
- **Dial-out connectivity** - This fast and easy service links Inovis and a customer's business partners over a dial-up phone connection, with a schedule or the presence of data triggering the session. Trading partners desiring a secure point-to-point method to handle any level of traffic volume choose dial-out connectivity.
- **Peer-to-peer connectivity** - Business partners and even data can initiate these important connections which allow both to send and receive. The industry standard, peer-to-peer connectivity also is secure and reliable and provides a synchronous connection to support request-response interactions.
- **Web commerce** - This simple yet far-reaching service helps customers dramatically increase the adoption of e-business in their trading communities, while providing smaller partners without the appropriate infrastructure an easy-to-use B2B service. With Internet access and a standard Web browser, a trading partner can log in to a custom Web interface to access and trade documents via tailored forms.

Quality: The Tie that Binds Business Communities

Establishing business communities and managing supply-chain activities within those communities obviously requires B2B communications. Yet in today's ultra-competitive, fast-changing marketplace, *high-quality* B2B communications, as measured in terms of maximum reliability, availability and visibility, is an absolute necessity if those trading-partner communities are to function efficiently and cost-effectively. Today, more and more companies understand that the capabilities offered by providers such as Inovis, with its MESH platform, Tier-IV data center and Managed Services portfolio, are the quality ingredients they must have to succeed in the long term.

About Inovis

Inovis is a leading provider of on-demand Business Community Management solutions that empower companies to transact, collaborate and optimize communications with their entire trading community. By standardizing and automating mission-critical business interactions, companies can dramatically reduce the complexity and cost of supply chain communication. This foundation of high-quality, reliable and secure connectivity provides real-time visibility across the order-to-payment lifecycle. The resulting actionable intelligence enables users to proactively address supply chain issues before they impact profitability, shortening cycle times, improving productivity and increasing customer satisfaction.

With more than 20 years of expertise, Inovis delivers its products and services to more than 20,000 companies over a wide range of industries and markets across the globe.

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