

OVERVIEW

AT&T Global Network Pandemic Preparedness

How AT&T is Preparing and What Your Company Should Do

AT&T has extensive experience in planning for and responding to a broad range of contingencies, from hurricanes to floods to acts of terrorism. AT&T's business continuity preparedness efforts include the day-to-day operational activities required to ensure continued service to its customers, broad scenario planning, individual threat analysis, centralized command, control and coordination and detailed recovery procedures for all critical business functions. This document describes AT&T's efforts to ensure the network can continue to provide value to our customers during a pandemic, and what we can do together to prepare for this type of event.

AT&T is committed to providing exceptional customer service during any major incident and is actively engaged in pandemic preparedness. According to information provided by the World Health Organization and U.S. Centers for Disease Control, employers could be impacted by a pandemic in the following ways:

- High levels of absenteeism due to sickness and/or the need to care for sick family members
- "Social distancing", or the desire to stay away from people who may be infected
- Schools, public transportation and public events may be cancelled to limit the spread of the disease
- The need to provide care to children that are out of school in an attempt to limit their exposure to the disease

For these reasons, the ability for employees to perform their job functions remotely will be critical to maintaining some level of business productivity. The employee's ability to be productive will depend on their ability to communicate with others via the telephone, Internet access and access to their employer's internal network.

Impacts of a Pandemic on the AT&T Global Network

While it's impossible to precisely predict what would happen in a global pandemic, the AT&T network is largely automated and redundant. Most components of the core infrastructure are engineered to "Five 9's" reliability, ensuring nearly uninterrupted service. We would expect a pandemic to have minimal to no impact on our critical operations. Nevertheless, in order to evaluate the potential impact of a pandemic, AT&T has analyzed current and anticipated network traffic patterns to help understand the impacts of a widespread shift of customers to a "work from home" or remote office scenario. As an example, Internet traffic normally peaks during the evening hours, however during a pandemic, this could shift to daytime hours if many people are telecommuting. AT&T has studied various traffic scenarios and identified alternatives that would allow maximizing network performance during these peak periods.

Based on this analysis, AT&T does not expect significant performance issues such as excess latency or packet loss. However, any significant shift in traffic patterns or increased demand for bandwidth could result in some congestion during peak times, especially at aggregation points near residential communities.

Most congestion-related issues are solved through network rerouting; bandwidth capping may be utilized when other options aren't available. This can usually be done with little or no noticeable effect on customers. Customers contract for a range of speeds, and it is expected they would continue to receive speeds that are in that range.

AT&T is also taking appropriate actions to ensure operations remain in service for our customers while considering and addressing the needs of our employees and their families. Depending on the nature of the pandemic (e.g., the severity, duration and location) provisioning and repair intervals for some services may increase. We will also work with



each customer to ensure AT&T personnel have safe entry to company facilities, acceptable to both parties, in a manner that protects both our customers and our employees. In addition, AT&T requires all vendors and suppliers to have disaster recovery plans.

AT&T Wireless, along with our strong working relationships with other wireless providers, will help ensure wireless service is reestablished in the event of a major disruption. Wireless service providers have a variety of services to aid those employees who must work in a virtual-office setting.

Company Networking Strategy

AT&T is encouraging customers to review their own networking and remote access capabilities. Businesses are dependent on the type and quality of access to the network, and many companies' pandemic plans include telecommuting capabilities available at each employee's alternate work location. This could be in a hotel, in an employee's home, a temporary work location or even wireless access. Each Internet access method (e.g., dial-up, private line, DSL, wireless broadband, cable and IP fiber-enabled access) entails performance vs. price trade-offs. Each company should evaluate these alternatives to determine the appropriate mix of services, ensuring availability of critical resources for their business needs.

Some of the Items to Consider:

- Companies that manage their own networks should ensure they are prepared for any additional demands that might result from their contingency plans, such as increased virtual office work and other social distancing strategies. These preparations might include evaluating their current employee usage of the services, maximum expected increase in corporate infrastructure usage under a pandemic scenario, increases in additional services required and employee preparedness for telecommuting. Additional consideration may be given to the company's ability to shift work to other, unaffected locations for the duration of the outbreak.
- Companies should also consider implementing internal policies and techniques to maximize employee productivity in a virtual office environment situation, such as identifying bandwidth-saving practices like filtering certain types of email attachments from email messages or adopting guidelines to reduce bandwidth consumption.

Networking Alternatives

AT&T understands the importance of networking and telecommuting to pandemic planning. As such, we offer multiple options to permit access to the corporate network. Following are options that, depending on the specific location and its criticality, may be used to accomplish each company's operational objectives during any unplanned event, including a pandemic.

Private Line Services

Private Line services provide a point-to-point dedicated path. AT&T can offer the capability that enables businesses and U.S. government agencies to securely run their private networks, end to end, on AT&T's leading, global Internet Protocol (IP) network using multi-protocol label switching (MPLS). With MPLS, AT&T's Network-Based IP VPN service

delivers scalability, security, reliability and class-of-service features not found on traditional IP networks. As a result, businesses can run their corporate networks and applications like intranets, e-mail and extranets on an all-IP network, but securely separated from public Internet traffic. Customers who choose the new service benefit from cost advantages associated with native IP services, usage-based billing, access redundancy and flexible management options. AT&T offers a comprehensive set of network-based IP VPN options. AT&T was first to introduce MPLS VPNs and has been providing a "peerless" network-based IP VPN since 1999.

Virtual Private Network (VPN) Services

Virtual Private Network (VPN) Services such as AT&T Network Based IP VPN Remote Access (ANIRA) offer seamless remote access integration, within a private VPN utilizing Multi-Protocol Label Switching (MPLS). ANIRA provides access via Dial, DSL, WiFi, ISDN, Wireless, or 3rd party ISP. The dial access is available in over 165 countries, WiFi in over 79 countries and managed DSL in 39 countries. ANIRA also provides a single user-friendly client application that can handle various forms of access (i.e., Dial, DSL, or WiFi). No dedicated on-site VPN tunnel catchers are needed – it's located on the AT&T network. This is a very scalable solution that can grow as you grow. It's a low cost option for smaller customer sites (single office home office) that do not want to implement their own dedicated equipment for pandemic planning. This solution allows the corporation to install the software application on users' PCs, but not pay for the access points until they actually use the Remote Access service.

DSL and High-Speed Cable

DSL and High-Speed cable are commonly available Internet access mechanisms for the consumer. Through access to the Internet, users can typically utilize a variety of Internet-related services to stay informed and communicate with widely dispersed co-workers and customers.

Dial Access

Dial access is a slower access method, but even more commonly available to anyone with access to a "land line" telephone. It utilizes the same client application as the other ANIRA access methods and it works from any computer with a dial-up modem. AT&T maintains local modem connection services throughout the U.S. to enable most users to establish their modem connection with a local call.

Wireless Fidelity (WiFi)

Wireless Fidelity (WiFi) provides high-speed connectivity for virtual office users. AT&T supports a large percentage of users connected through WiFi access. In addition, AT&T supports WiFi Corporate memberships for companies desiring to manage their WiFi corporate accounts. The service is designed to provide online controls to assign and delete accounts, and to view usage. Pricing varies by volume and service level commitments.

Critical National Infrastructure Providers

Some of AT&T's customers are involved in national security and are responsible for key activities associated with critical national infrastructure. The Federal Government has made available several options for these operators that drive AT&T's service priorities during an emergency as listed below.

The Government Emergency Telecommunications System (GETS) Wireless Priority Service (WPS)

GETS and WPS services provide priority voice access for those registered as GETS or WPS users. These users may be in federal, state, local, or tribal government, critical infrastructure sectors in industry, or non-profit organizations that perform critical National Security and Emergency Preparedness (NS/EP) functions. Typical GETS and WPS users are responsible for the command and control functions critical to management of and response to national security and emergency situations, particularly during the first 24 to 72 hours following an event.

The Telecommunications Service Priority

TSP service provides for priority installation and restoration of the telecommunications lines that are considered critical to the nation's security and emergency preparedness. An example of TSP would be Public Safety Answering Points (PSAP) phone lines, which when registered will be restored on a priority basis in the event of a national crisis or attack. TSP is a federal program, and PSAP administrators who operate the nation's 9-1-1 centers qualify for inclusion in the TSP program because their services are essential to the health and safety of American citizens.

AT&T recommends that customers who are eligible to participate in these government programs make arrangements to do so prior to any event. This ensures that all emergency needs have been identified and are properly reflected in our records. It is important to note that it is extremely difficult to get this type of priority during an actual event, so prior coordination is essential to ensure critical needs can be accommodated.

AT&T Professional Services

With millions of customers and thousands of enterprise customers relying on its services, AT&T has established Business Continuity and Disaster Recovery as one of the company's core competencies. Many businesses lack in-house expertise on Business Continuity/Disaster Recovery planning. Nearly 10 percent of U.S. businesses surveyed do not have business continuity plans, in place and approximately 23 percent stated that business continuity planning was not a priority, according to "AT&T's 2009 Business Continuity Study." Businesses need

AT&T Business Consulting

- **Focuses on all aspects of business continuity: availability, reliability, scalability, recoverability, quality, design, performance and security**
- **Includes AT&T core competencies in business impact analysis, risk assessment, mitigation strategy, process design, business continuity and disaster recovery planning, testing, emergency response and overall program management**
- **Significantly enhances your ability to respond to a disruption, stay in business and meet due diligence requirements (i.e. the corporation's or individual executive's legal responsibilities to the business and its stockholders)**
- **Makes your business more adaptive to change and helps improve your competitive advantage**

to identify and prioritize critical business operational processes and validates the current capability to keep these processes up and running in the event of a business disruption.

Summary

Your ability to withstand any crisis may ultimately rest on the effectiveness of your communications with employees, clients, suppliers and other key constituents. Network solutions for business continuity preparedness require advance planning and implementation to effectively enable survivability of a firm's critical operations. Companies should ensure they are prepared for any additional demands that may result from a pandemic (i.e. increased virtual office work). These concerns might include evaluating their current employee usage of remote access services, maximum expected increase in corporate infrastructure usage under different scenarios, increases in additional service required and employee preparedness for telecommuting. It is prudent to provide employees who must work in a virtual office scenario with multiple options to access your corporate network.

For more information contact your AT&T Representative or visit us at www.att.com/business.