Dynamically addressing the needs of the telecommunications industry

Can you see it? IBM can. With grid computing, your company is no longer constrained by the limitations of processing power, the boundaries of existing IT infrastructures, the difficulties of sharing data across the organization or the restrictions of tight budgets. It is free to realize its utmost potential, to react on the fly to rapidly changing economic environments, to sense and respond to unpredictable shifts in customer demand and to change course at a moment’s notice to outmaneuver the competition. Your company is free to do business on demand.

Understanding the telecommunications challenge
Today, telecommunications companies face conflicting priorities. To compete, succeed and avoid stagnation, your business must continue to devote resources to growing new markets—and in turn revenues and profitability. To do so, telecom companies and service

- **Enables your business to use untapped compute resources to accelerate analytical processes, reaching end results far more rapidly than with conventional computing environments**

- **Helps your business improve asset utilization and reduce capital expenditures—and ultimately realize greater return on technology investments**

- **Dramatically improves the productivity of people and systems—for improved speed and competitive advantage**

Imagine what your telecommunications business could accomplish if you could analyze the potential value of a new product offering in minutes, rather than days. If you could offer innovative value-added services to attract new customers—using your existing technology infrastructure. Or, if you could significantly accelerate your time to market for new products and services.
providers like you are investing in IP networks to support value-added services such as video on demand, rich-media delivery, storage networks, disaster recovery services, online gaming and high-definition collaboration. In addition, they continue to spend on broadband network infrastructures, including wireline xDSL, cable and wireless access points.

While it is possible to offer bulk-rate connectivity services over this infrastructure, your business also needs to improve return on investment (ROI) and dramatically lower total cost of ownership (TCO). In addition, you face increasing pressures to improve cash flow and focus on servicing debt. Current strategies to cut Operational Expense (OPEX) and Capital Expense (CAPEX) do not create sustainable growth for the business, because neither is likely designed to improve business processes. Yet, with increased competition, deregulation and the need for new, low-cost voice, data and content services, your telecommunications company simply cannot afford to pull back. The question is how to move forward.

Laying the foundation for success

Fortunately, a solution exists. It starts with a bold new vision of transforming business processes to enable your company to compete more effectively in today’s marketplace. This vision must be rooted in a completely practical implementation strategy. It demands a forward-thinking plan that delivers realistic, short-term results while laying the foundation for a new, more flexible services delivery infrastructure. This foundation will enable your telecommunications business to:

- **Build a more resilient and responsive infrastructure for internal and external services**
- **Leverage existing assets to optimize IT and network operating costs as well as capital expenses**
- **Accelerate business analytics to gain better insights into cost-effectively serving specific customer groups and growing niche markets**
- **Reduce risk and accelerate time to market of new services**
- **Create new opportunities for growth to deliver shareholder value**

Investing in change while meeting financial performance objectives is possible, but it requires a broad view. The best strategies incorporate both short- and long-term perspectives. It would be shortsighted to think that sustained competitive advantage can be based on the launch of any single product or service. The route to competitive advantage lies in building and leveraging a new dynamic business model, coupled with an optimized service delivery framework.

IBM recognizes the business-critical actions that telecom companies such as yours can take to improve their competitive position in the marketplace:

- **Drive revenue growth** by simplifying and accelerating the introduction and modification of content, applications and services—while more cost-effectively targeting offers to customers. Your telecommunications business must to be able to react quickly to competitive actions and to rapidly changing customer preferences.
• **Support future growth and emerging technologies** through the use of a scalable, standards-based architecture.

• **Improve customer retention and profitability** by improving the efficiency and responsiveness of processes (such as order processing, billing and customer service) and by enabling shorter time to market for high-demand services. For example, some service providers increasingly are turning to portal-based solutions to simplify customer self-service and boost customer loyalty and retention.

• **Reduce operating costs** by streamlining and fully integrating existing business processes (including billing, customer relationship management, provisioning, assurance and resource management). In addition, your business can cut high IT administration support costs through the reliable automation of workflows and policy-based optimization.

• **Protect prior IT investments and reduce risk** by leveraging existing systems and making informed life-cycle decisions—including migration to more cost-effective platforms—in order to manage IT enterprise assets more efficiently.

**Meeting the challenge head-on**
To meet these challenges, take critical action and create a foundation for success, many telecommunications companies like yours are turning to grid computing. In its simplest form, grid computing can be defined as using multiple computers across a network to address a compute- or data-intensive problem. Through grid computing, your business can:

**Build revenue—and retain customers**
Using grid technologies, your telecommunications company can use untapped compute and processing resources to considerably accelerate analytical processes—reaching end results far more rapidly than with conventional computing environments. Whether your organization needs to bring a new product to market, solve a complex business problem or complete in-depth data analysis, IBM Grid Computing solutions can give you accelerated speed to enhance your competitive advantage and drive higher revenues.

**Control costs to remain competitive**
Maximizing productive, efficient use of existing resources is one of the keys to minimizing operating costs—a must in today’s competitive telecommunications market. In addition to improving your company’s operating efficiency through dramatic enhancements to employee and system productivity, grid computing infrastructures can help your business improve asset utilization and reduce capital expenditures—and ultimately realize greater return on technology investments.
IBM Grid Computing

IBM targeted grid solutions for telecommunications customers

IBM understands that the telecommunications business is increasingly competitive, time-sensitive and data analysis-intensive. Moreover, IBM has a great deal of experience in applying grid technologies to successfully solve the problems of industries facing similar challenges. Leveraging this knowledge, IBM has designed a series of targeted grid computing offerings, built specifically to meet the needs of your telecommunications enterprise:

Grid computing for analytics acceleration in telecommunications

Time-sensitive billing, compliance and reporting applications require a great deal of compute resources to process high volumes of data. If your organization fails to efficiently process this information, it could mean revenue loss for the company.

Using grid technologies (grid virtualization, scheduling and provisioning layered upon new and existing server and storage hardware), your business can take advantage of untapped compute and processing power—typically dedicated to specific applications—to dynamically provision resources and automate workflows. In this manner, grid computing can help your company substantially accelerate billing and other high-volume transactions—reaching reliable end results far more rapidly than with conventional computing environments.

IBM Grid Computing solutions can help your business greatly increase its ability to make sound, informed business decisions in a timely manner. While accelerating results, grid computing technologies also can help ensure optimal utilization of computing power to lower TCO of your IT infrastructure. Finally, by taking advantage of grid resources as an alternative to traditional disaster recovery scenarios, your business can significantly improve the reliability and availability of its technology infrastructure—for enhanced operational resilience and business continuity.
Grid computing for improved customer insight in telecommunications
To remain competitive, your telecommunications business must predict and understand customer needs—and meet those requirements by combining products and services and applying them consistently through appropriate distribution channels and networks. However, to do so, your organization must sift through tremendous volumes of customer data that may be stored in disparate data formats and located in repositories scattered across the enterprise. Because of resource limitations and inefficient use of available computing power, existing IT infrastructures may have a limited ability to support multiple compute-intensive affinity analyses in the necessary timeframe. In turn, these limitations can prevent your telecommunications company from obtaining the timely, accurate models that can make the difference between winning and losing customers.

By using grid middleware to aggregate and virtualize the underlying resources, your business can help accelerate customer analysis applications. By increasing the frequency and accuracy of customer analytics processes, IBM Grid Computing technologies can help your business better understand its customer needs—and tailor products and services to address these needs in a responsive manner. This improved insight into customer trends and requirements can help your organization fine-tune its market strategy, so you know where and when to invest—and when to abandon promotional efforts.

A platform for new revenue streams
In addition to these targeted offerings for analytics acceleration and improved customer insight, IBM Grid Computing solutions can provide a scalable and flexible services delivery platform to capture valuable new revenue. For example, grid computing can help your business solve the problem of delivering innovative, high-demand product offerings—while protecting and leveraging massive existing network infrastructure investments. Here’s how:

Network services provisioning
Your business already faces the challenge of monitoring, provisioning and managing large network services to support enterprise customers and consumers with a mix of voice and IP data. However, in an environment comprising a heterogeneous mix of network devices, rapidly provisioning networks services to support new applications can be nearly impossible.

Fortunately, when combined with IBM monitoring and provisioning software, grid computing infrastructures can help your business create flexible pools of servers and storage to support new applications with connectivity quality that meets necessary service level agreements (SLAs). In a grid environment, servers, storage and network assets are defined as services and can be allocated in a fully optimized manner. In this way, grid solutions can enable your telecom company to flexibly deliver network services to support offerings such as content streaming, video on
demand, online gaming, guaranteed bandwidth and more—either for a premium price or as a competitive weapon—to attract an entirely new class of consumer and business customers.

**Managed Web services**
Using grid infrastructures, telecommunications providers like you can deliver managed Web services offerings and host customers’ Web services on demand, providing scalable performance and guaranteed levels of service. In this way, your company can open new market opportunities and build stronger relationships with enterprise and individual customers such as software vendors, online shopping sites and more.

**Wireless portals**
Grid computing enables companies to provide innovative mobile products and services to wireless customers—without investing heavily in new network infrastructure. By building a scalable wireless portal based on grid technologies, you can enable your wireless customers to build and tailor customized content for their wireless devices—strengthening customer loyalty and generating new revenue streams.

**Improved enterprise optimization and asset management**
As a result of mergers and acquisitions, your company may have inherited a collection of thousands of disparate servers and storage devices, all scattered across multiple legacy networks—a massive sunk cost and asset management challenge. Fortunately, IBM Grid Computing solutions can empower your business to transform distributed, heterogeneous resources into a powerful, flexible technology infrastructure that reflects and supports your business needs today. Through a secure, flexible grid infrastructure that matches servers, storage and network assets to jobs, you can consolidate assets and workflows, optimize enterprise processes and manage assets more efficiently—thereby simplifying operations and reducing TCO.

**Your telecommunications business…without bounds**
By leveraging the power of grid computing, you can bring together your disparate technology resources to create powerful, unified systems, placing the necessary IT resources at the fingertips of those who need them. Grid solutions can help telecommunications companies enhance customer loyalty, reduce costs and generate strong revenue streams into the future.
For more information
For more information, please contact your IBM Sales Representative or IBM Business Partner.

More information on IBM Grid Computing can be found through the following resources:

IBM Grid Computing Web Site
ibm.com/grid

IBM Grid Computing Redbooks

Globus Open Source Grid Community
www.globus.org