Optimizing the Customer Experience: Concept of One\textsuperscript{SM} and Concept of Zero\textsuperscript{SM}

In his multiple roles, Hossein Eslambolchi advises AT&T's chairman and senior leaders on technology strategy, and leads the premier AT&T Labs scientific and engineering team in pioneering next-generation communications, entertainment and information services. He has been instrumental in making AT&T's IP network one of the most reliable in the world.

Hossein is the originator and chief proponent of the powerful and complementary reengineering philosophies, Concept of One\textsuperscript{SM} and Concept of Zero\textsuperscript{SM}, and is currently applying them to spearhead business transformation at AT&T. Hossein holds more than 200 patents. He is an AT&T Fellow, the company's highest technical honor, and serves the advisory board of the National Alliance of Business (NAB).

Q. Hossein, explain to us what Concept of One\textsuperscript{SM} is all about.

A. Concept of One is our re-engineering philosophy to consolidate and simplify processes, platforms, networks, systems and organizations across our entire business. With the Concept of One, you do it right, do it once and use it everywhere.

For over a century, AT&T has set the industry standard in networking products and services. But over time we also created a very large-scale infrastructure with multiple systems and processes, some of them incompatible and inefficient. Not unlike the entire telecom industry, we had grown quite a complex environment, evolving into multiple legacy systems, protocols, interfaces and applications.

But our customers can no longer afford this complexity – what they clearly want now is a unified and simplified process, and one place to get their services automatically through a web-based infrastructure. Our business is about networking, about real-time information delivery, about automation – these are the key business drivers. So the fundamental idea behind Concept of One is to meet our customers' needs by connecting them to one end-to-end platform for all our services – ordering, provisioning, billing, customer care, the whole spectrum – now a reality in the form of AT&T BusinessDirect\textsuperscript{SM}.

The Concept of One represents a strategic investment in the total quality of our customers' experience. With quality as our objective, the necessary consolidation became very straightforward. We've moved away from silo-based systems to an enterprise-wide model. The key success factors for our customers' on-demand, real-time business strategies – cycle time
reduction, cost reduction, quality improvement and efficiency – have all followed naturally. Concept of One enables us to remain very competitive by delivering a much higher quality of customer experience than ever before.

Q. Concept of One™ is a fairly radical approach to re-engineering. How did it get started?
A. First, our goal was to transform our business, to leapfrog incremental improvements in order to reach a new level of customer experience. It’s important to note that executing this kind of transformation first requires the will of the entire business.

Technology is only a small component of the strategy. At AT&T, we’ve made that commitment – top down and bottom up – to execute on Concept of One.

Next we looked at our operational processes. For example, as I traced through some customer requests, I mentally put myself in the place of a trouble ticket and asked myself, “How would I flow across the entire operation at the network layer?” I realized I would be bouncing around from center to center in order to resolve one customer service issue. That cycle time was unacceptable to me, so I tried to envision a much simpler process to deliver service to a customer. That’s basically how Concept of One got started – I imagined I was a trouble ticket!

Since we saw clearly that streamlining all our operations would optimize efficiencies for our customers, we got to work on consolidating operational centers across our entire business. Not only have we reduced our costs, we’ve also dramatically increased our quality and reduced our defects, a huge value-add for our customers. And today every AT&T employee is able to execute on Concept of One – it’s in our DNA.

Q. What results has AT&T seen to date?
A. Concept of One is about streamlining infrastructure and removing legacy systems — by the end of this year we’ll have consolidated over 100 e-infrastructures, with many more to come. This has already led to dramatic improvements in service delivery, and the payoff is that our customers are seeing the results.

Take cycle time reductions, for example – we’ve reduced cycle times by 50-60%, with more improvements coming every day. We’re resolving customer billing disputes for our eight key billing systems in 35% less time, and we’ve decreased contracting cycle time by 14%.

Customers are also seeing big improvements in performance and reliability: we’ve increased order flow-through by 70%, with a target of 90% by year-end. In the same time frame, we’ll have automated over 80% of maintenance issues; we’re now able to detect over half of service-disruptive events before they impact customers; and through end-to-end automation, we’re targeting an 80% reduction in defects per million.

And now, for the first time in our history, customers can access the heart of the AT&T network in real time, 24x7, over one end-to-end platform — our AT&T BusinessDirect™ e-service platform, which is growing by 70% per year.

All these improvements have translated into increased customer satisfaction, so we know we’re on the right track. It’s really the simplification behind Concept of One that drives benefits directly to AT&T customers in the form of shorter cycle times, better end-to-end services, and higher quality.
Q. How does Concept of One support AT&T's networking strategy?
A. With Concept of One, we're consolidating existing legacy networks, such as Asynchronous Transfer Mode (ATM) and frame relay, into a single network infrastructure by implementing Multiprotocol Label Switching (MPLS) and interworking standards.

As a result, we can transition our frame relay customers to "IP-enabled frame" without installing any new gear at their premises. We transition their service within the point of presence (POP) from the core ATM network to a core MPLS network. This supports any-to-any connectivity and simplifies the process for scaling frame relay.

Today, Concept of One encompasses all access services. In the future, we'll aggregate these services onto a new edge device called the multiservice access platform (MSP), which will accept all kinds of services - voice, multicast video, corporate extranets, e-learning, CRM – packetize them, and then aggregate them onto a gigabit Ethernet link for transport to a larger office, where a box called the multiservice edge (MSE) will aggregate them further and hand them off to the switched MPLS core.

So with all legacy services "IP-enabled," we'll have a whole new level of consistency at the edge of the network, with performance measurement, management, and service level agreement verification all standardized around MPLS. AT&T already has a clear lead in this technology because of our research experience in managing the complexities of MPLS. Our offering is also very scalable compared to competing non-MPLS strategies.

The combination of MPLS and intelligent optical technology will make possible the quality and class of service that customers will expect in the future. This is AT&T's Enterprise Networking vision – one global MPLS-enabled backbone over intelligent optical IP-based core networks, with intelligent nodes and multi-protocol/multi-service capabilities at its edges.

Q. What can you tell us about your companion philosophy, Concept of Zero?
A. Concept of Zero is really the natural extension of Concept of One. While Concept of One consolidates systems and processes to reduce defects, we have to go beyond – once we simplify and consolidate processes we have to automate them end-to-end wherever appropriate.

Look at it from a network perspective. The vision of Concept of Zero is a hands-free, self-operating network, delivering services to our customers in real-time, with zero cycle time, and zero defects. We consider any delay in getting a packet across a network as a defect, so our mission is to get defects down to zero, with everything moving across the network flawlessly, with no impact on quality or reliability.

This commitment to exceeding our customers' expectations is the AT&T story, so we have to "walk the talk."

Although we're still in the early stages of implementing Concept of Zero, we're already making significant progress. Electronic bonding, or e-bonding, is a good example. E-bonding allows a customer's internal system to interface directly with AT&T systems to accomplish various tasks without manual intervention. For example, one of our customers with a large frame relay network now has their own network-monitoring system talking directly with AT&T to electronically generate trouble tickets rather than creating them manually – a huge savings in network management time.
AT&T is investing heavily in the Concept of One and Concept of Zero to improve the customer experience—a multi-year commitment of over half of our research and development investment. We have the cash position and the financial will, of course. But more important, we have the organizational will. This commitment to exceeding our customers' expectations is the AT&T story, so we have to “walk the talk.” The power of these tools—the simplification of Concept of One and the automation of Concept of Zero—will enable AT&T to evolve rapidly to a 6-Sigma level of customer experience. It’s a major leap forward, but we're getting there.

Q. What can customers expect as a result of Concept of One and Concept of Zero?
A. We're committed to our customers' success—AT&T’s mission is to become the world’s networking company, and in doing so we're transforming ourselves from a product-and-operations orientation to a clear focus on the customer.

Concept of One and Concept of Zero are guiding us on this mission. The consolidation, simplification and automation inherent in these philosophies will enable us to make our customers’ businesses more productive and successful in the future by:

- Delivering a single, IP network that offers global access, superb reliability and performance, and a pathway to integrate legacy and leading edge services;
- Providing services that encompass data, IP and voice applications, a rich array of features and simplified interoperability—all delivered and priced on an integrated solutions basis; and,
- Giving our customers hands-on control of their services for immediate, secure and intuitive access to their information.

AT&T can provide these services because we have developed the core competencies, the skills, the scope and the reach to understand our customers' current and future business needs... and because we think and operate with a sense of urgency. It's really about our customers, making them successful and confident that they have a dependable partner in AT&T who's been here for 100 years and will be here for the next hundred.

For more information, contact your AT&T Representative, or visit www.att.com/business.
Hossein Eslambolchi is President of AT&T's Global Networking Technology Services (GNTS), Chief Technology Officer (CTO) and Chief Information Officer (CIO). He is responsible for the corporation's strategic technology direction, network operations, research and development, information technology systems and processes, and advises the chairman and senior leaders on technology issues. Hossein is a member of AT&T's Executive Committee, the company's governing executive panel led by AT&T Chairman and CEO David W. Dorman.

As GNTS president, Hossein leads all network development, engineering and operations, as well as the CIO and CTO organizations including AT&T Labs. The GNTS team provides the innovation, networking and technology expertise driving AT&T's business transformation to improve Customer Care, Sales and Network Operations. He is responsible for the design, development, engineering, operations and reliability of AT&T's global network, as well as its Global Network Operations Center -- AT&T's networking nerve center. Under Hossein's corporate management initiatives for Concept of One (do it once, do it right, use it everywhere) and Concept of Zero (zero defects, zero cycle time and automate where possible), AT&T is streamlining and automating processes and systems across the company. In less than two years, these initiatives have significantly improved customer-response time, reduced error rates and distinguished AT&T as the industry's lowest-cost major carrier.

As CTO, Hossein oversees the formulation and implementation of a strategic vision to advance technology in conjunction with AT&T's business objectives. He is the President of AT&T Labs and leads some of the world's best scientists and engineers in the development and creation of new services, tools and capabilities for next-generation Internet Protocol (IP) networks to give AT&T and its customers a competitive edge.

As CIO he provides the leadership to reengineer AT&T's business processes and the underlying information technology (IT) infrastructures -- improving productivity and the value of information within the organization. He leads the direction and alignment of IT to support AT&T's business planning, applications development, architectural design, sourcing, strategic partnerships, technology transfer, and customer satisfaction.

Hossein joined AT&T Bell Laboratories in 1986 and has more than 17 years of expertise in designing and developing packet networks. Under his leadership and guidance, AT&T now operates the most reliable and largest packet network in the world -- carrying approximately 4 pedabytes of packet traffic per day. Hossein also served as interim President of Excite@Home Broadband Networks Services, where he improved network reliability by 51 percent, while the customer base grew by 20% to more than 3 million subscribers. An expert in network reliability and IP technology, he headed up the development team for Fast Automated Restoration System (FASTAR), which AT&T successfully deployed in 1992 making it possible to quickly restore service when high-capacity fiber optic cables are damaged.
Hossein was honored by Computerworld magazine as one of the Premiere 100 IT Leaders for 2004. The Executive Council of New York recognized Hossein with a "Ten Award" as one of its top innovators of 2003. Also in 2003, industry newsletter Light Reading acclaimed Hossein as the number one "mover and shaker" in telecommunications. Additionally, Cisco iQ Magazine ranked Hossein among the world's leading executives with exceptional vision using networking technology to transform their organizations — honoring him as one of its 10 Internet Business Leaders in 2003.

Holding approximately 300 patents and applications, Hossein was named "Inventor of the Year" by the New Jersey Inventors Hall of Fame, in 2001. In October 1999, he was appointed an AT&T Fellow (AT&T's highest technical honor). He was honored as a finalist in the 1997 United States National Inventor of the Year competition. The New Jersey Research and Development Council bestowed him with the Thomas Alva Edison award in 1997. In the same year, he received AT&T Labs' Science and Technology Medal.

Hossein is on the Board of Directors for Mindspeed Technologies, Inc. He is also on the National Action Council for Minorities in Engineering (NACME) Board of Directors. His work has been published in 18 technical publications, and he is on the IEEE editorial board of the Journal of Network and Systems Management. Additionally, Hossein serves as AT&T's Accessibility Champion.

Hossein graduated with highest honors from the University of California - San Diego with a B.S. degree in Electrical Engineering and in 2002 was elected as UCSD's alumnus of the year. He received his M.S. in Electrical Engineering and Ph.D. in Electrical Engineering from the University of California - San Diego.

He maintains offices in Menlo Park, California and Bedminster, New Jersey.

###

9-04