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NTT Group Three-Year Business Plan (FY 2003-2005) Toward Early Achievement of Resonant Communications Environment

With the advent of the full-scale broadband and ubiquitous era, the NTT Group announced its group-wide "Vision for a new optical generation -- Broadband leading to the world of resonant communication --" in November 2002. Guided by this vision, the NTT Group will concentrate the capabilities of the entire Group on creating a sound business foundation by actively cultivating new frontiers (markets) centered on information communications and IT services. While working to resonate with our customers and the world at large, we will also strive to establish ourselves as a corporate group contributing positively to the development of society.

In pursuit of this purpose, the NTT Group has formulated a series of priority initiatives which are summarized in the "NTT Group Three-Year Business Plan (FY 2003-2005)" as presented below.

I. Changes in Market Environment

1. Rapid Growth of Broadband Market and Contraction of Fixed-Line Telephone Market

- In addition to the continued growth of ADSL services, subscribers to optical access services, the mainstay of the broadband market, have increased sharply in an environment of intense competition. These developments augur the advent of the full-scale "broadband era."
- The expansion of flat-rate access services and the full-fledged penetration of IP telephones and IP-VPN are accelerating the shift in traffic from fixed-line telephones to IP communications networks.
- Rate and service competition centered on major corporate users will be further intensified by the revision of the Telecommunications Business Law (introduction of detariffing¹).

2. Maturing Mobile Communications Market and Increased Sophistication and Diversification of Mobile Multimedia

- Quantitative growth in the mobile communications market is slowing down with total subscribers topping the 80 million mark at the end of FY2002. Rate and service competition is expected to become even more intense with the continued slashing of rates and the introduction of high-performance terminals and sophisticated applications.
- Users of third-generation mobile phones (3G) are increasing in an intensely competitive environment. As a result, market penetration of high-speed mobile multimedia, including visual communications, content distribution, and mobile EC services is advancing at an accelerated pace.

3. Intense Competition in SI Market and Growing Demand for New IT Services

- Corporations aiming to implement management and business innovations are increasing the relative share of their strategic IT investments as they reach beyond the goal of merely improving operational efficiencies. This has created intense competition as a growing number of start-ups and companies from other industries continue to enter the field.
- Demand for new IT services is being generated by various pioneering initiatives aimed at realizing a "vital, safe, exciting, and convenient" 21st-century society as targeted by the government's IT Strategic Headquarters.

4. Changing International Markets

- The global information and communications market is striving to recover from the collapse of the IT bubble and subsequent corporate failures. Dynamic steps are being taken toward the consolidation and reorganization of businesses.
- Headway is being made in the full-fledged proliferation of mobile multimedia, particularly i-mode, throughout the world, and 3G services are also steadily growing.
- The Asian markets are gaining greater importance as demand for IP solutions grows, primarily among Japanese-affiliated companies in the region, and as markets for mobile phones continue to grow rapidly in China and elsewhere in Asia. Progress is also being made in Japan's cooperative relations with Asian countries centered on joint government and private-sector cooperation in the IT field.

II. Specific Initiatives

1. Toward Speedy Achievement of Resonant Communications Environment

The NTT Group will effectively utilize its management resources to create a resonant communications environment as quickly as possible, and will open the way to a new "optical" generation through the development of new business models.

(1) Speedy Creation of Service Concepts and Service Development System

[1] Services Centered on Real-Time End-to-End Communications

- The NTT Group will develop total services that integrate everything from

terminals and access to platforms and applications. The services will be built around a core of end-to-end, high-quality, high-security communications services, such as real-time, interactive visual communications.

- The NTT Group will pursue business partnerships and alliances in various fields to develop a resonant communications environment. This will be used as a framework for creating new business models and for contributing to the resolution of social problems in such areas as the reduction of the environmental load, energy conservation, labor-market mismatch, medical services and long-term care, and crime prevention.

[Examples]

- Creating an easy-to-use multi-location collaborative environment based on high-resolution video and crisp audio to share materials and data for virtual business meetings, telework², face-to-face consultation, and remote seminars.
- Creating a personalized content distribution environment for quick and accurate access to required information using agent technologies³ and meta-data⁴ for user-preference matching and high-performance searches.
- Creating an environment for the transmission of "objects" and automatic location-control based on RF tags⁵ and sensor control technologies to develop new fields of business in home security, logistics and distribution, facility management, and preventive medicine.
- With the spring of 2005 as a target date, services primarily targeting business users will be launched in the major metropolitan areas. Service areas will be gradually expanded while watching demand trends.
- Leading up to the spring of 2005, existing networks will be utilized in providing various advance services related to the realization of the resonant communications environment.

[2] Speedy Creation of Service Development System

- The IP resources of the NTT Group will be brought together to strengthen the Group's package-product development system with an aim to developing end-use services with outstanding network services, applications, and usability primarily targeting small and medium-sized businesses, SOHO, and communities.
- The NTT Group is creating various easy-to-use optional charge systems for additional services responding to diverse needs for operational efficiency and community activities, as well as service management systems making maximum use of the overall strengths of the NTT Group.

(2)Active Market Development Using Overall Strength of NTT Group

[1] Access Services

(i) Optical Access Services

- The NTT Group has identified super high-speed, interactive, and reliable optical access services as the mainstay of its broadband access services, and will concentrate its marketing efforts on this strategic field.
 - Installation-time of optical services will be shortened by strategic facilities improvement in high demand areas, concentrated marketing, and the revamping of construction methods and administrative processes.
(Installation time will be shortened to about 10 days in frontloaded areas in Tokyo and Osaka, and approximately one month for other areas with optical services.)
 - The NTT Group will provide full support, including highly reliable maintenance and operational services covering everything from user terminals to internal corporate networks.
- Marketability of ADSL services will be further improved by engaging in competition, responding to diverse user needs, and identifying potential users of optical access services.

(ii) Wireless Services

- In the area of FOMA (NTT DoCoMo's third-generation mobile phone system), efforts will continue to be made to promote the expansion of the service area to include underground areas and inside buildings, and the improvement of the performance of terminals.
- The NTT Group companies will continue to work toward creating demand in the area of wireless LAN access services. Efforts will also be made to improve user convenience, such as by providing roaming services.

[2] IP Services

(i) Community Collaboration Services

- The NTT Group will provide visual communications services for sharing materials and applications at multi-locations to realize net-based community and collaborative activities.

(ii) Integrated Fixed/Mobile Services

- FOMA and fixed broadband services will be linked to create interactive visual communications as well as to promote an ubiquitous environment allowing users to obtain desired services anywhere and anytime without restriction by user terminal type or access method.

(iii) Platform Services Using Multi-Application Smart Cards⁶

- The NTT Group will promote general-use, high-security platforms which employ multi-application smart cards via mobile phone and other networks. Group companies will develop business solutions in the fields of EC and government, financial, and distribution services by utilizing the billing settlement and authentication functions.

(iv) IP Telephone Services

- * Best-effort type IP telephone services will be regarded as additional to ADSL and other services and used to respond to competition and user needs.
- * In line with the full-scale expansion of optical access and the development of a resonant communications network, the NTT Group will promote the transition to IP telephone services with high-quality and versatile additional functions.

[3] Solutions

- * NTT Group companies will fully utilize their individual strengths in a complementary approach to provide convenient and highly reliable IT services in areas such as government, business, and education.
- * Partnering businesses will be promoted to create new value by combining the unique values of corporate customers with the technologies and know-how of IT services.
- * The NTT Group will promote mobile multimedia, including ITS⁷ and mobile EC, by linking with corporations in other industries and will develop the corporate market via PHS flat-rate data communications service.
- * The NTT Group will provide optimal facility solutions⁸ through the integration of IT, energy, and construction technologies.

2. Vitalization of R&D

(1) Creating Fundamental Technologies for Resonant Communications

NTT will promote R&D activities focusing on fundamental technologies for the development of next-generation network architecture⁹ based on comprehensive network design concepts with a 3- to 5-year time horizon and for the realization of new types of services. Furthermore, with a ten-year time horizon in mind, NTT will continue to devote its efforts to basic research on basic and advanced technologies.

[1] Next-Generation Network Technologies for Enjoyable End-to-End Communications

- * Real-time network control technology¹⁰ for providing communications services which match the customer's quality requirements (high quality/best effort).
- * Photonic transport technologies¹¹ enabling efficient transmission in an environment of explosive growth in traffic in the full-scale broadband age.

[2] Security Technologies for "Safe" and "Secure" Network Services

- * Secure channel technology¹² to block unauthorized access to networks by means of spoofing and other malicious methods.
- * Moving Firewall technology¹³ to block attack packets at upstream nodes and

thereby defend the entire network from DDoS attack¹⁴.

[3]Environmental and Energy Technologies for the Realization of Sustainable Society

- Environmental information-sharing technologies providing effective means for real-time monitoring of environmental data, integrated data management, analysis, evaluation, and disclosure.
- Commercial backup power sources and high-efficiency fuel cell technology¹⁵ to reduce carbon dioxide emissions.

(2)R&D Management Reform to Overcome the "Death Valley Challenge"¹⁶

NTT will increasingly concentrate its efforts on the development of fundamental technologies that are the source of its competitive advantage. Such R&D results will be steadily commercialized under a system of close collaboration with the operating companies of the NTT Group.

To bolster the sustainable growth of the NTT Group in the information-sharing market which undergoes rapid technological change, NTT will undertake research in cutting-edge technologies in accordance with its long-term business strategy and will develop innovative technologies with which to overcome barriers in network technologies as well as barriers in communications technologies.

[1]Strengthening "Comprehensive Commercialization Functions" to Plan and Promote the Commercialization of Fundamental Technologies

- R&D findings yielding technologies with definite opportunities for commercialization will be promptly transferred to operating companies and commercialized. This will be promoted through personnel exchange (between the operating companies and the holding company) and technology consulting (by the holding company).
- "Comprehensive commercialization functions" will be established in the holding company to handle technologies awaiting definite opportunities for commercialization. The purpose of these comprehensive commercialization functions will be to promote marketing, planning of service/product commercialization, formulation and execution of commercialization plans, and the development of alliances with companies outside of NTT Group to actively pursue possible new business applications for such technologies.

[2] Effective Utilization of "Cost-Allocation System"

- The costs associated with the commercialization of products corresponding to the specialized needs of individual operating companies will, as a rule, be charged to the pertinent company through a "cost-allocation system" aimed at clarifying the responsibility for the commercialization and follow-up business.

3.Steady Development of International Operations and International Activities

The NTT Group will continue to promote international operations by utilizing its business infrastructure and the strong alliances that have been developed with strategic

partners. The Group will also exploit synergies with domestic projects, will effectively utilize Group resources, and will promote joint projects among Group companies.

The NTT Group will pay particular attention to bolstering its business development in Asian regions with numerous Japanese-affiliated companies and high growth potential. With a focus on Asia, the Group will also actively engage in international standardization activities for IPv6, security, encryption, and mobile communications technologies.

[1] NTT Communications Corporation

- In the area of IP/data communications businesses, NTT Communications will focus on the Asian region. The hosting services of Verio Inc. and other capabilities will be utilized in promoting global IP solution through alliances with strategic partners.
- Steady improvements will be made in the profitability of international operations with an aim to make Verio's EBITDA¹⁷ profitable in fiscal 2003 and to register profits in international operations overall by fiscal 2005.

[2] NTT DoCoMo, Inc.

- Envisioning new business opportunities in Asia as well as Europe and the United States, NTT DoCoMo will continue to steadily promote i-mode services and other mobile multimedia as well as 3G services overseas by working with its strategic partners.

4. Continued Promotion of Structural Reform

Given the severe business environment that continues to prevail, the NTT Group will accelerate the pace of business and financial reform to respond to the needs of the new age. The Group is committed to implementing thorough programs for improving management efficiency, and will fully exploit the advantages of Group management to aggressively expand into new business fields.

(1) Vitalization of Outsourcing Companies and Expansion of New Businesses

- Since the start of operations in May 2002, the series of outsourcing companies (totaling 100 companies nationwide) active in the fields of equipment and facilities, marketing, and common functions have used their specialized know-how to show their strength in region-specific operations and in the development of the following businesses.
 - (i) Companies in the facilities and equipment field: Design, installation, and maintenance of corporate and local-government user systems; support services for information equipment (PCs, routers, etc.).
 - (ii) Companies in the management and marketing field: Gathering, processing, and editing of regional content; planning and hosting of IT seminars; Web planning, production, and management.
 - (iii) Companies in the administrative field: Outsourcing of payroll and settlement functions; consulting on personnel systems, employee welfare, and finance.

- The outsourcing companies will continue to increase their independence and to develop innovative approaches to their respective businesses. The advantages of Group management will be maximized by nationwide horizontal sharing of success cases in an effort to develop new businesses based on strong IT-related demand throughout various regions.

(2) IPO¹⁸ of High-Performance Companies and Expansion of Business Domain through Alliances

- From the perspective of maximizing the NTT Group's potential value and the expansion of its business domain, steps will be taken towards IPO of the Group's non-core businesses with sufficient market competitiveness and business performance, while paying due attention to the company's strategic growth requirements and market conditions.
- Capital alliances with companies in the same field will be actively promoted for Group companies for which greater growth is anticipated through such alliances than through stand-alone efforts. The competitive position of such companies will be bolstered through the establishment of core competencies and the expansion of market shares.
- Responding to the deregulation of the power industry and growing social concern for environmental issues, such Group companies as NTT Facilities, Inc. and ENNET Corporation, which have special advantages in the integration of IT, energy, environmental, and construction technologies, will play a central role in aggressively expanding into such business fields as the IT environment development business¹⁹, the energy and global environment business²⁰, and the power retailing business.

(3) Further Promotion of Performance-Based Personnel and Wage Systems

- The NTT Group has been pursuing performance-based personnel and wage systems in order to encourage maximum expression of individual initiative and the challenging spirit. Beginning in April 2003, a point system will be introduced in computing retirement allowances. Under this new system, specified amounts will be added every year to an employee's retirement allowance based on current performance.
- The NTT Group will continue to expand its performance-based personnel systems with the aim of improving the Group's total human power.

(4) Improving the Performance of Unprofitable Services and Future Initiatives

- NTT will engage in thorough cost-cutting in its public telephone businesses, while taking into consideration its commitment to universal services. The number of low-yield public telephones will be reduced, and plans to install new smart-card public telephones will be reviewed.
- "@FreeD," the flat-rate PHS data communications service newly launched in April 2003, will be used to develop new mobile data communications markets for corporate users and to improve PHS financial performance.

(5) Systemic Reforms for the Resonant Communications Age

Incentives for capital investment and service provision must be ensured for the NTT Group to contribute to the development of the broadband and ubiquitous markets through the speedy achievement of resonant communications. The NTT Group intends to request the respective authorities to review systems related to optical infrastructure and broadband services.

With the advent of the full-scale broadband and ubiquitous age, the accelerated shift of traffic from fixed-line telephones to IP communications networks can no longer be avoided. Under these conditions, it will become increasingly difficult to maintain the current fixed-line telephone network. In light of these developments, maximum efforts will be made to maintain profitability by reducing the costs of fixed-line telephone networks and expanding the range of semi-flat-rate telephone services. The NTT Group will request the pertinent authorities to establish a system which comprehensively takes into account the requirements of maintaining universal services amidst today's competition.

5. Bolstering Financial Strategies and Other Aspects of Group Management

The NTT Group will seek to respond in a timely manner to the rapid changes in the legal systems and the social environment facing the corporate sector. In addition to pursuing its social mission of "ensuring the operation of vital lifeline," NTT will strive as a private corporation to establish Group management systems that will maximize the corporate value of the Group.

(1) Strengthening Group-Based Financial Management

The Financial Strategies Committee, formed in October 2002, will strive to boost shareholder value by strengthening total Group cash-flow management with the introduction of the consolidated tax return system.

[1] Realization of Value through Sale of Real Estate

- Active measures will be taken to liquidate real estate holdings in order to improve return on assets and to reduce real estate management costs.

[2] Strategic Utilization of Free Cash-Flow

- Free cash-flow generated through marketing activities, asset liquidation, IPO of subsidiaries, and other means will be strategically utilized as follows to maximize corporate value.
 - (i) Contribution to improvement of future business profitability (capital investment and R&D related to early achievement of the resonant communications environment).
 - (ii) Contribution to strengthening of financial foundation (repayment of liabilities incurred by structural reform-related expenses)
 - (iii) Stock buy-back, etc.

(2) Promoting Improved Transparency of Management Information and Appropriate Disclosure

- The NTT Group will disclose quarterly settlements from FY 2004 and is already releasing quarterly business information. In addition to this, beginning in the current fiscal year, quarterly data on consolidated revenues and the revenues of principal Group companies will be released.
- Group companies which have already completed the necessary preparations will release quarterly settlements beginning in the current fiscal year.
- To ensure the continuation and promotion of proper disclosure, the NTT Group is modifying and improving its disclosure contents and procedures in line with developments related to the U.S. corporate reform act and others²¹.

(3) Pursuit of Corporate Ethics

- The NTT Group is fully conscious that the business operations of its Group companies have an extremely important impact on society, and is aware that full legal compliance and the maintenance of high moral and ethical standards in the operation of its businesses are essential requirements.
- Acting on the principles contained in the "NTT Group Corporate Ethics Charter," the NTT Group is promoting the use of reporting and consulting desks to foster an open and transparent corporate culture. All the members of the NTT Group are united in their effort to maintain high standards of corporate ethics and to gain the full confidence of shareholders, customers, counterparties, and society at large through various ongoing education programs and the development of effective internal checking mechanisms.

(4) Strengthening Business Risk Management

- The members of the NTT Group, through their various business operations, are engaged in maintaining essential lifeline functions, an extremely vital public good. This requires the Group to have in place effective measures to prevent business risks. In preparing for large-scale risks, including natural disasters and other events with a major impact on the operations of the entire Group, the NTT Group has developed a series of Group-wide manuals outlining the pre-determined course of action to ensure effective and swift response in case of crisis.

III. Management (Financial) Goals

The NTT Group has established the following goals for FY 2005: consolidated operating income, 1.6 trillion yen; EBITDA margin, 33%; operating free cash-flow, 1.9 trillion yen; ROCE, 7%.

[\[See attachments\]](#)

Definition of Terms

- *1 Detariffing
Deregulation measures that free carriers from many of the obligations of filing tariffs with regulatory agencies each time a change is introduced, and allow direct transactions between carriers and customers.
- *2 Telework
Taking advantage of information technology to work remotely from home, a satellite office, or while on the road, rather than commuting to an ordinary office.
- *3 Agent technologies
Technologies for automatically assisting and brokering jobs over networks on behalf of users.
- *4 Meta-data
Attribute information attached to content indicating the location, a brief summary, copyright holder and other information, in order to facilitate efficient searching for information resources.
- *5 RF (radio frequency) tags
Small devices that communicate identifying information by wireless signals when in the presence of a reader, used for distribution tracking and many other applications.
- *6 Multi-application smart card
Microchip-embedded cards capable of fulfilling multiple roles, such as cash card, digital cash, medical examination card, library card, employee ID, etc.
- *7 ITS (Intelligent Transport System)
An advanced system utilizing communication links between roadways and vehicles as well as inter-vehicle communication, aimed at reducing traffic accidents and improving traffic flow.
- *8 Facility solutions
Solutions service offering full coordination of office or computer room construction projects, from real estate consultation to supervision and operations.
- *9 Network architecture
The configuration and requirements for implementing the functions to be provided in communication networks.
- *10 Real-time network control technology
Technology enabling provision of communications on IP networks with guaranteed quality of service similar to that of the conventional analog telephone service, in addition to best-effort service. It applies expertise accumulated over the years in switching systems and other areas.
- *11 Photonic transport technologies
The general term for technologies for efficient transfer, distribution and processing of optical signals containing enormous amounts of information. They include WDM (wavelength division multiplexing) technology geared to large-capacity communications, and large-capacity optical cross-connect technology.
- *12 Secure channel technology
Technology for realizing secure communications from any location, by means of

security control that combines session control with encryption processing.

*13 Moving Firewall technology

Technology that both protects the network from DDoS attacks and secures communication by authorized users. When a DDoS attack is attempted, this technology detects the sources of the attack, moves the control point, and analyzes traffic in order to accomplish the above goals.

*14 DDoS (Distributed Denial of Service) attack

After getting control of large numbers of computers by means of a virus or Trojan horse, using those computers as launching pads for sending large numbers of packets to a target computer, thereby severely hampering its ability to provide normal service.

*15 High-efficiency fuel cell technology

Technology for raising the efficiency of solid oxide fuel cells by reducing internal resistance of the ceramic layers and by improving the catalytic properties of the electrolyte material. The resulting cells can make direct use of methane or other natural gas as fuel.

*16 "Death Valley Challenge"

The challenge of overcoming the "Death Valley" gap between the R&D stage and actually marketable products and services. Many R&D results fail to make it to commercial usefulness because of the difficulty of judging their feasibility.

*17 EBITDA (Earnings before Interest, Taxes, Depreciation and Amortization)

A measure of a company's profitability that makes cross-country comparisons possible by minimizing interest, taxation, and accounting standards differences.

*18 IPO (Initial Public Offering)

The first sale by a company of its shares to the public.

*19 IT environment development business

The business of building high-reliability power supply systems, security systems and other information environments in data centers, server rooms and the like.

*20 Energy and global environment business

Business that promotes energy-saving and environmental protection. It includes energy service businesses such as building environmentally sound energy systems (solar systems, wind-powered generators, cogeneration power systems, etc.), consulting on energy-saving policies, and promoting ISO 14001-based environmental management aimed at reducing environmental impact.

*21 U.S. corporate reform act and others

The Sarbanes-Oxley Act (enacted July 30, 2002) and related rules established in the United States in response to the problem of unethical accounting practices, and aimed at strengthening disclosure requirements.

Figures contained in this plan relating to future predictions were estimated according to information available at this point in time, and may change in response to trends in the Japanese economy and the information communications world, as well as new services and rate of charges, etc. The NTT Group therefore does not guarantee the reliability of the figures in question.

- [NTT Group Three-Year Business Goals \(Consolidated\)](#).

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