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AT&T

Rhonda P. Merritt
Assistant Vice President
Law & Government Affairs

Suite 700
101 N. Monroe St.
Tallahassee, FL 32301
904 425-6342
FAX: 904 425-6343

April 2, 1999

Ms. Blanca Bayo, Director
Division of Records and Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

RE: Undocketed – Review of Regulated Utilities' Year 2000 Preparations and Readiness (Telecommunications)

Dear Ms. Bayo:

In accordance with the Notice of Staff Workshop in the above matter dated March 5, 1999, AT&T is submitting the presentation that was made at this workshop. We believe that the information contained in the attached presentation is responsive to the questions included in the Notice.

Sincerely,

Rhonda Merritt

Rhonda P. Merritt

cc: Phil Trubelhorn

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YEAR 2000

Y2K Program Update

Michael P. Donnelly

AT&T Year 2000 Customer Liaison

Year 2000 Readiness Disclosure

Agenda

☐ AT&T Approach

☐ Program Status

☐ AT&T Networks

☐ Testing Strategies

☐ Network Reliability and Interoperability Council

☐ 1999 Program

☐ Summary

Program Focus

AT&T-Developed Applications	Software written by AT&T to support business functions such as ordering, provisioning, billing, payroll, etc. Also includes external data interfaces (e.g., data from LECs, PTTs, telemarketing groups) critical to the running of the application.
Computing Platforms/ IT Infrastructure	Hardware, software and communications platforms/ components that support the applications, including common modules; third-party software, such as compilers, database managers; mainframe and server processors; operating systems; communications software. Also includes desktop platforms and local area networks, as well as premises voice/data systems
AT&T Networks	All network elements, such as 5ESS, conversants, network servers, and operation support systems which directly support the daily operation of the AT&T Worldwide Intelligent Network. Also includes BOU-specific networks, e.g., Frame Relay data network, 5E-OSPS network for 0+ and calling cards.
Non-IT Infrastructure	AT&T's internal infrastructure, including building automation systems (e.g., security systems, heating, ventilation and air-conditioning systems, elevators, time clocks, etc.) and other non-IT categories like corporate aircraft and multimedia products / services.

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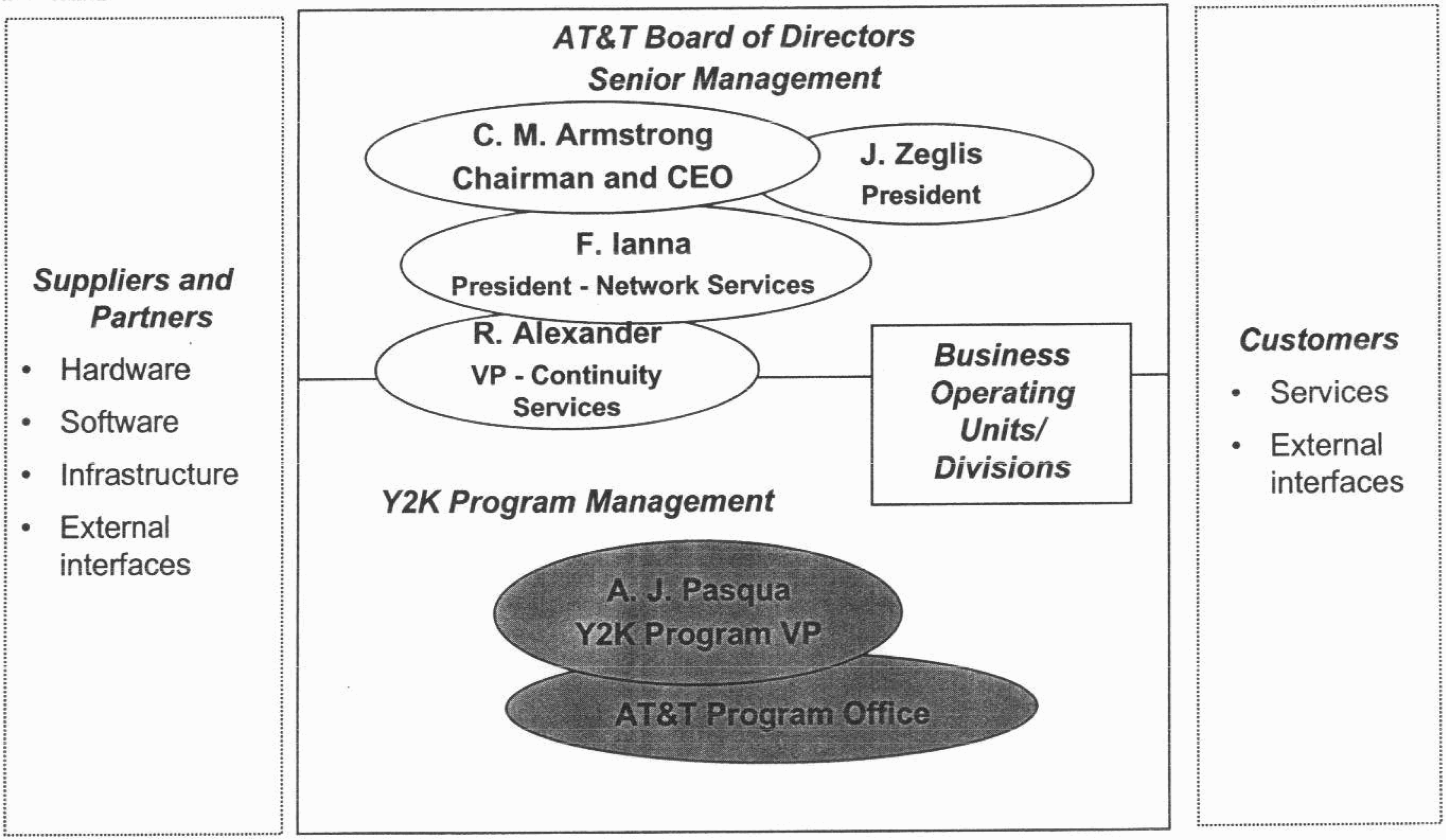
Roles / Responsibilities



Suppliers and Partners

- Hardware
- Software
- Infrastructure
- External interfaces

AT&T Board of Directors

Senior Management

C. M. Armstrong
Chairman and CEO

J. Zeglis
President

F. Ianna
President - Network Services

R. Alexander
VP - Continuity Services

Business Operating Units/ Divisions

Y2K Program Management

A. J. Pasqua
Y2K Program VP

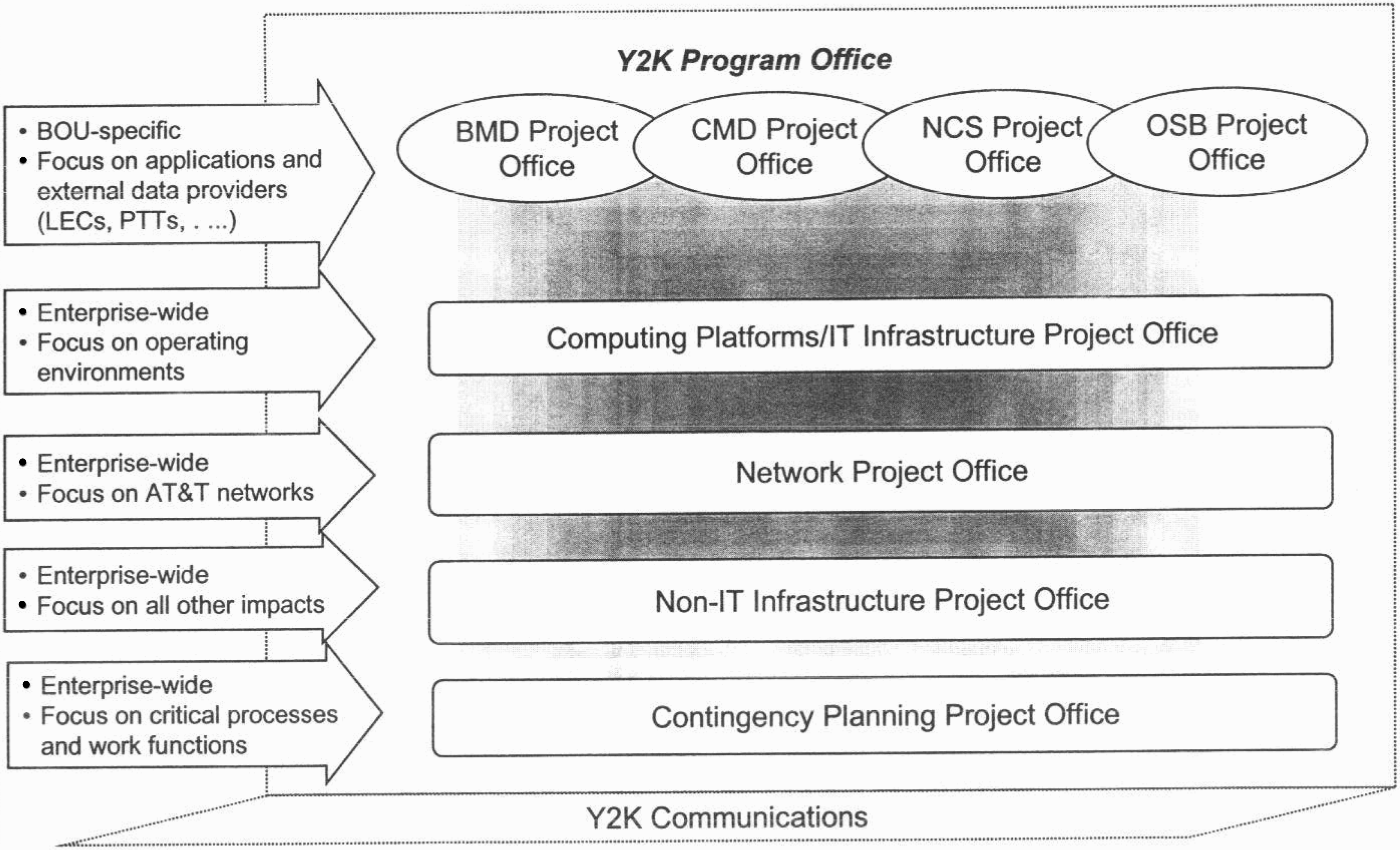
AT&T Program Office

Customers

- Services
- External interfaces

YEAR 2000

Governance Structure



Y2K Program Office

- BOU-specific
- Focus on applications and external data providers (LECs, PTTs, ...)

BMD Project Office

CMD Project Office

NCS Project Office

OSB Project Office

- Enterprise-wide
- Focus on operating environments

Computing Platforms/IT Infrastructure Project Office

- Enterprise-wide
- Focus on AT&T networks

Network Project Office

- Enterprise-wide
- Focus on all other impacts

Non-IT Infrastructure Project Office

- Enterprise-wide
- Focus on critical processes and work functions

Contingency Planning Project Office

Y2K Communications

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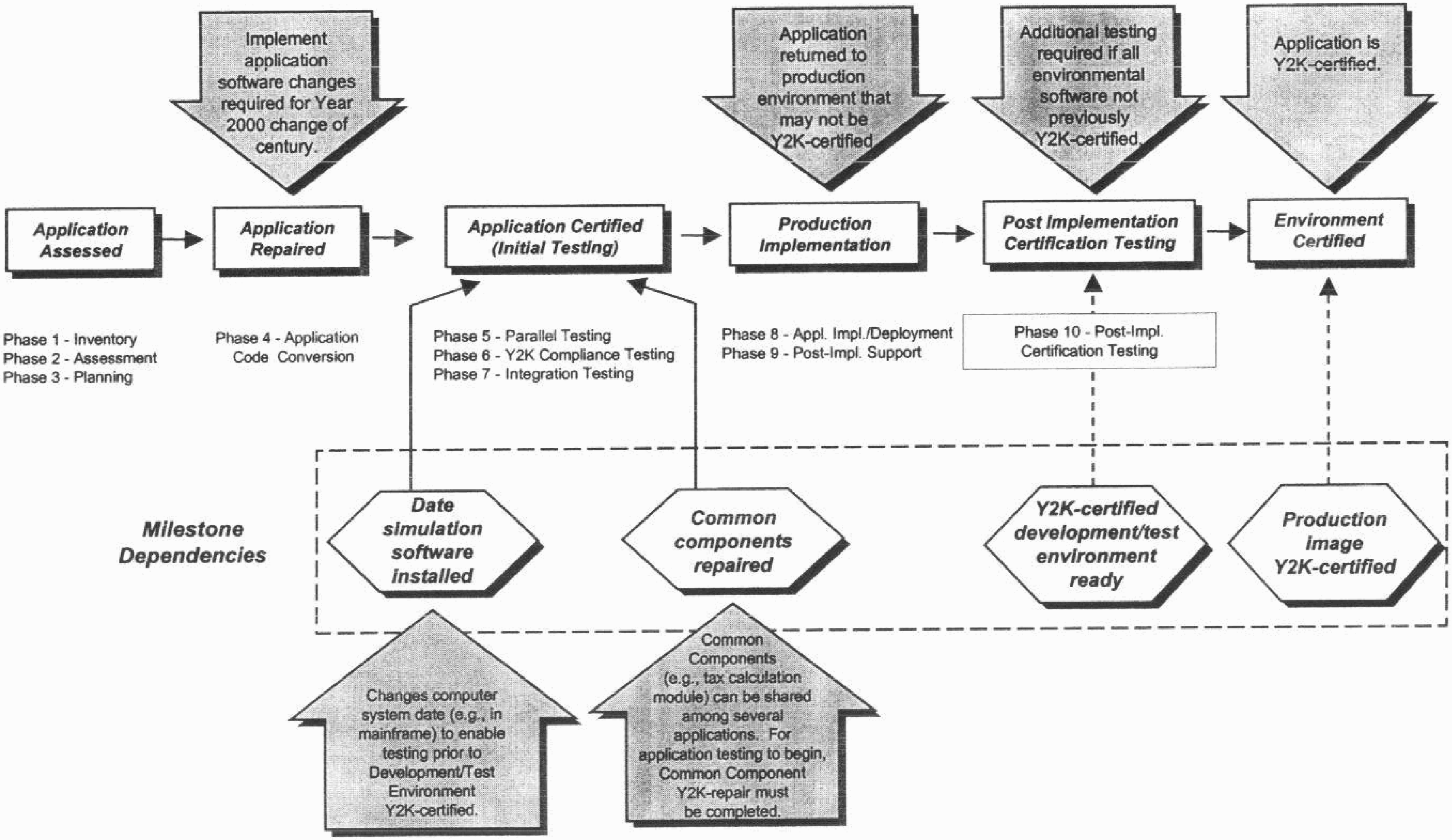
Process Road Map



Implement application software changes required for Year 2000 change of century.

Application returned to production environment that may not be Y2K-certified.

Additional testing required if all environmental software not previously Y2K-certified.

Application is Y2K-certified.

Application Assessed → ***Application Repaired*** → ***Application Certified (Initial Testing)*** → ***Production Implementation*** → ***Post Implementation Certification Testing*** → ***Environment Certified***

Phase 1 - Inventory
Phase 2 - Assessment
Phase 3 - Planning

Phase 4 - Application Code Conversion

Phase 5 - Parallel Testing
Phase 6 - Y2K Compliance Testing
Phase 7 - Integration Testing

Phase 8 - Appl. Impl./Deployment
Phase 9 - Post-Impl. Support

Phase 10 - Post-Impl. Certification Testing

Milestone Dependencies

Date simulation software installed

Common components repaired

Y2K-certified development/test environment ready

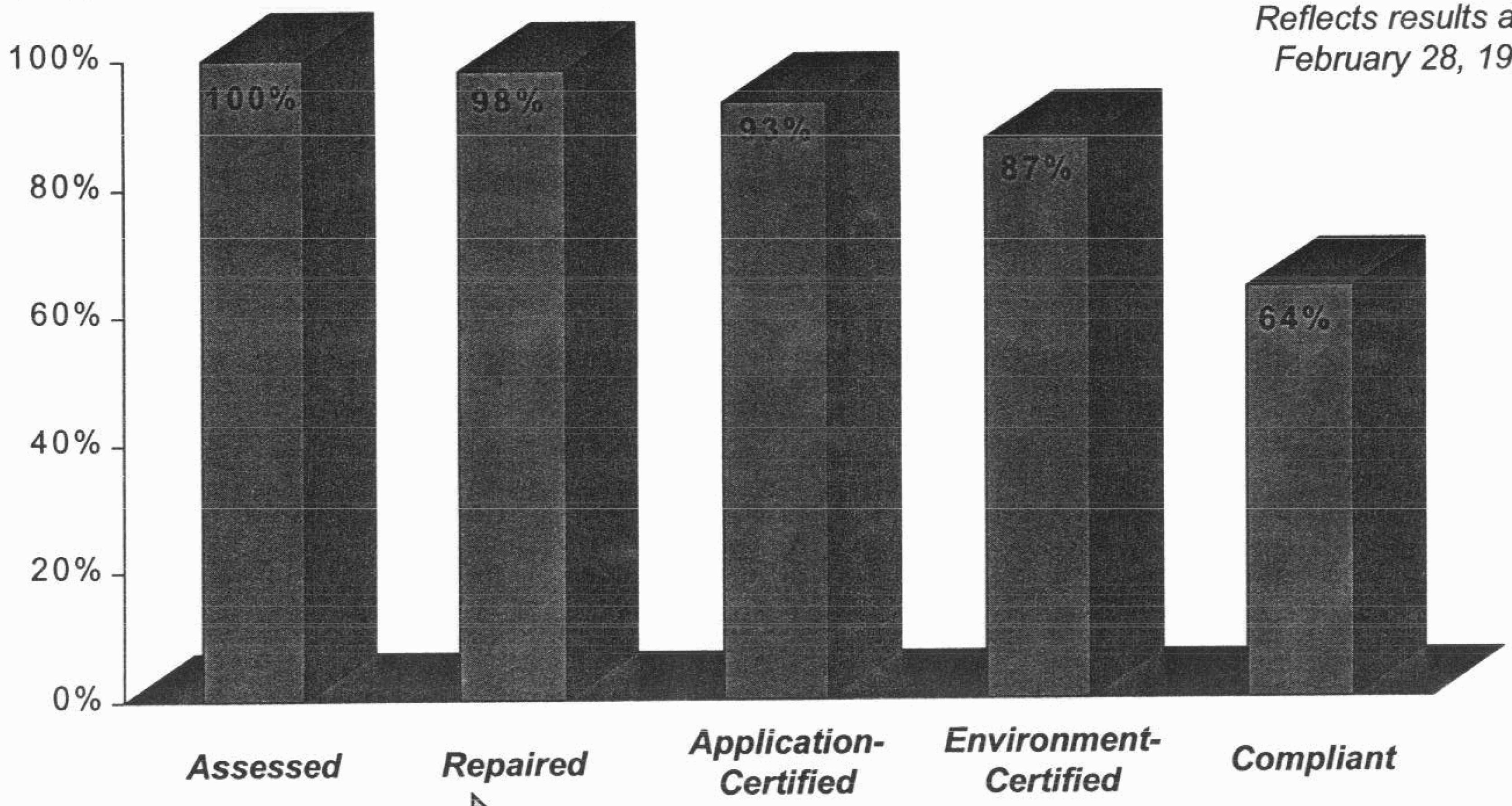
Production image Y2K-certified

Changes computer system date (e.g., in mainframe) to enable testing prior to Development/Test Environment Y2K-certified.

Common Components (e.g., tax calculation module) can be shared among several applications. For application testing to begin, Common Component Y2K-repair must be completed.

AT&T Applications: Program Status

Reflects results as of February 28, 1999

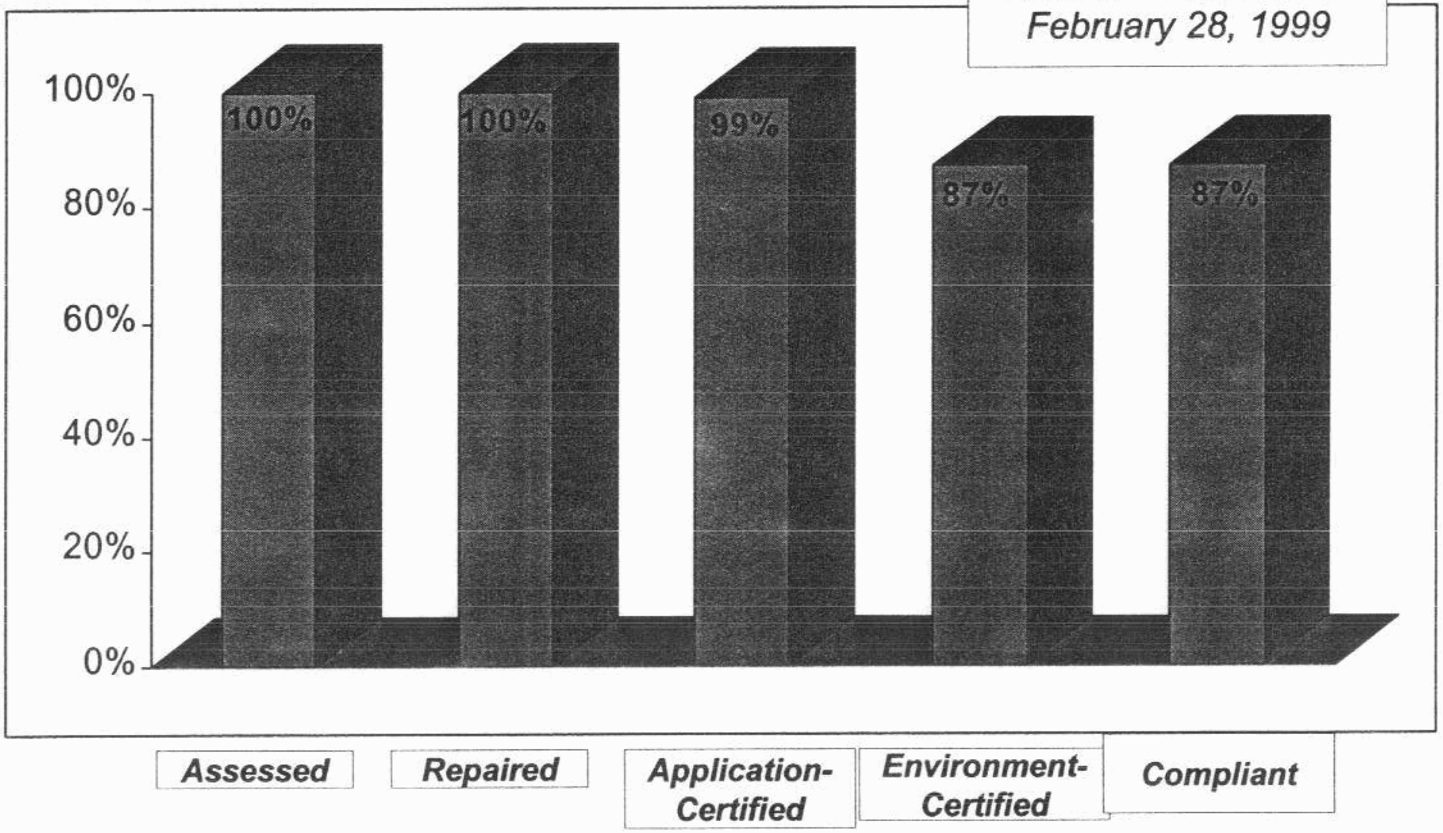


Target

100% compliance by 30 June, 1999

Network Operations Support Systems (OS)

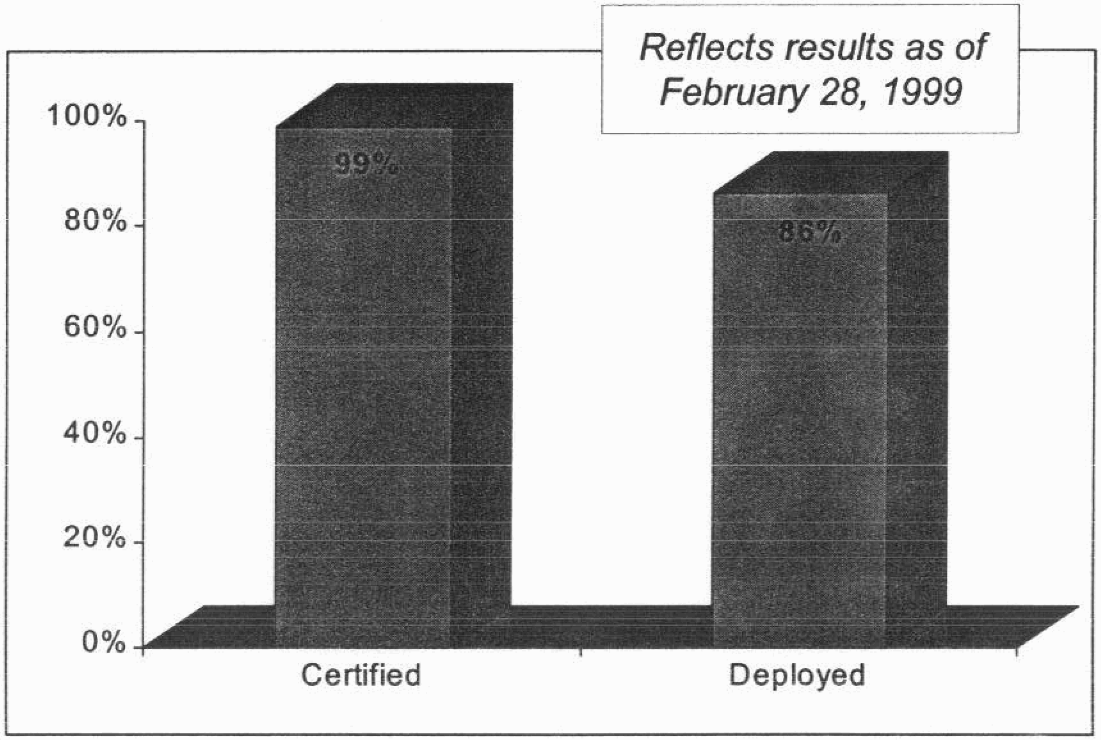
- Over 470 OS/applications supporting AT&T voice/data networks
  - Predominantly internally developed
- Rigorous Y2K process



Reflects results as of February 28, 1999

Network Elements (NE)

- Over 800 NEs (switches, routers, network control points, etc.)
  - 100% assessed
  - Over 80% already compliant, non-impacted or to be retired
- Working with NE suppliers to monitor their Y2K certification programs
- Additional Y2K testing to independently verify supplier claims
  - Unit testing / certification
  - Integrated testing with OS / application
- Target = 100% deployment by end of second quarter 1999

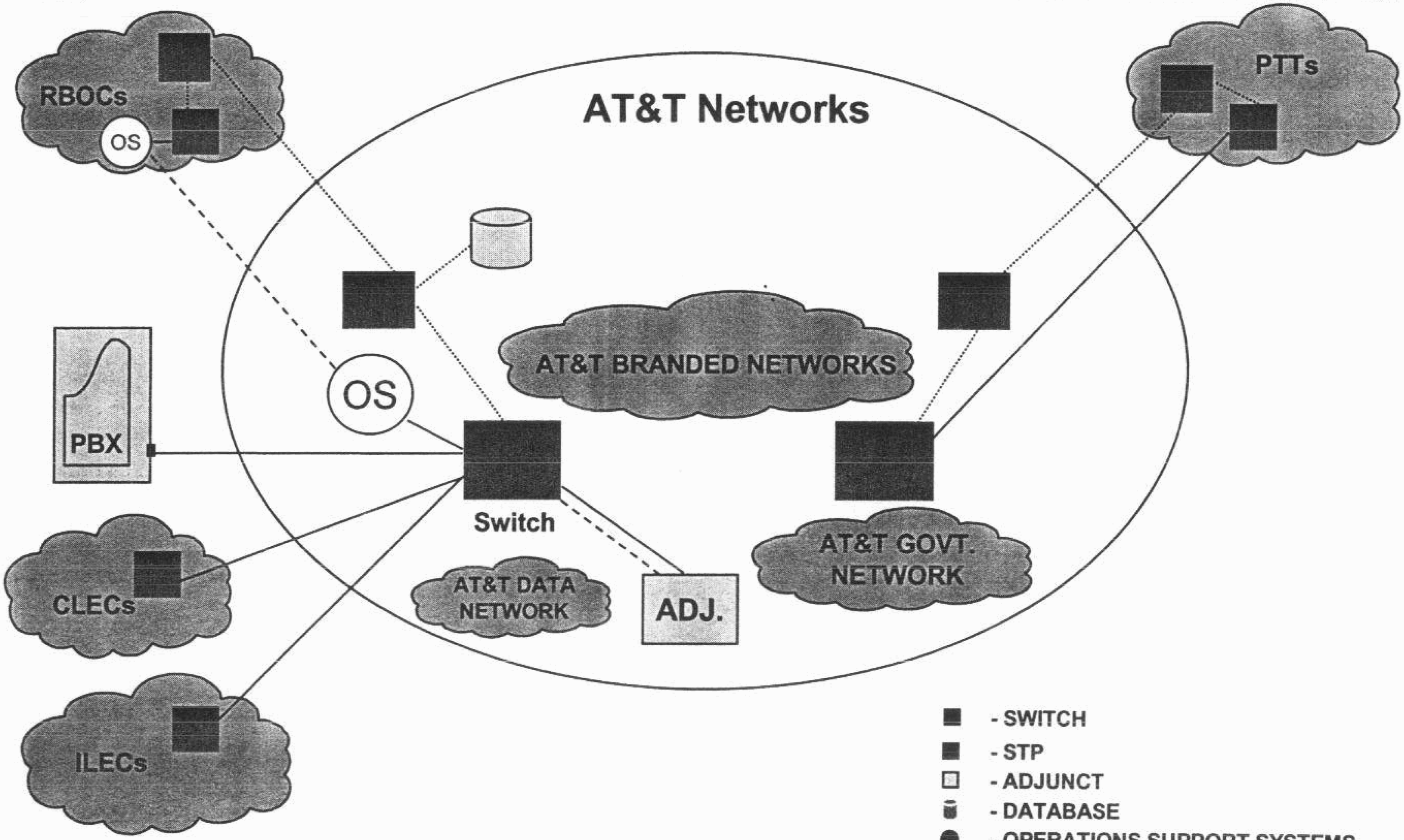


Network Goal

Ensure that there is no degradation to Network Services' reliability caused by the millennium change

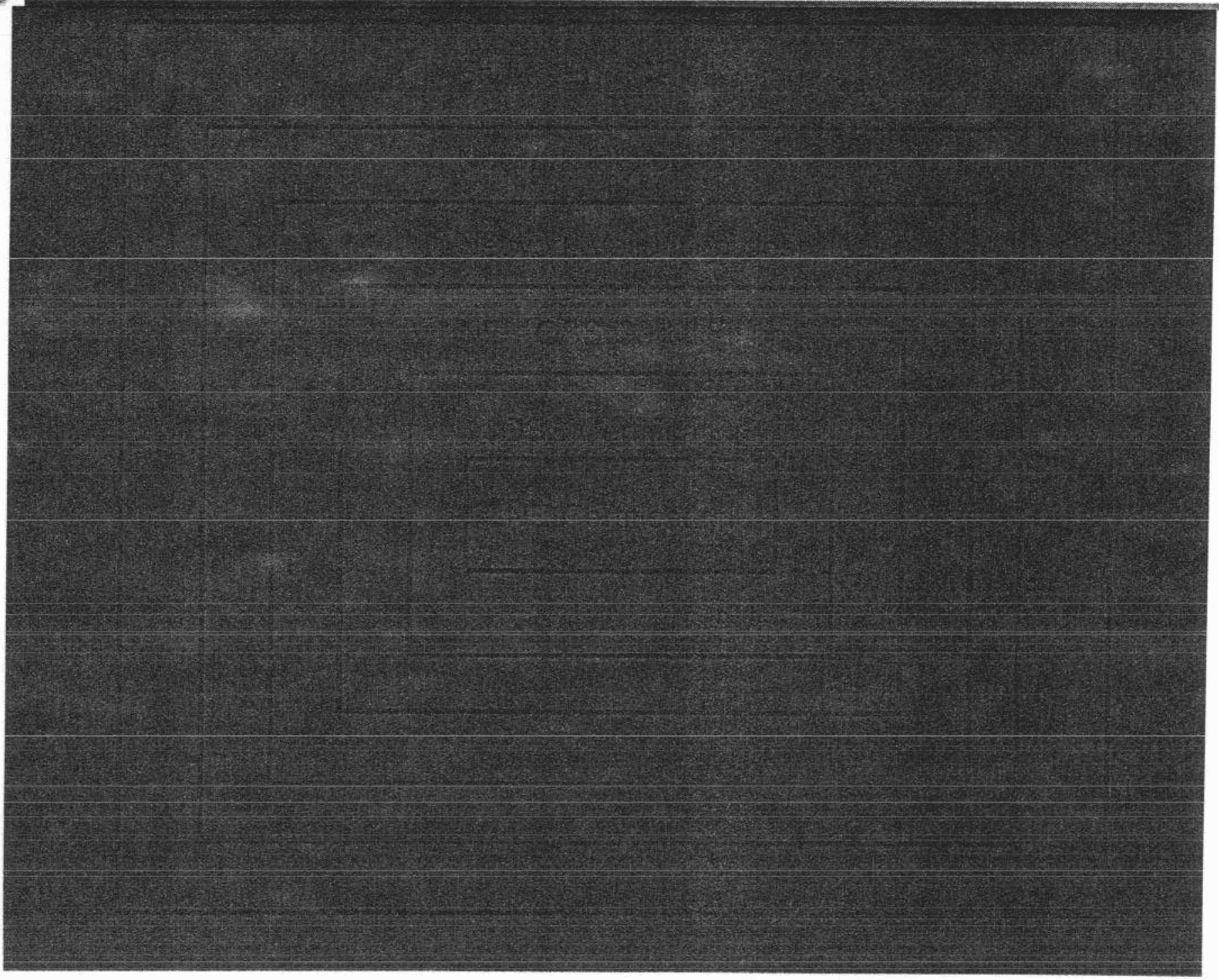
Focal points are AT&T's physical network, its operations support systems and their interoperability with customer premises equipment and other carrier networks

Network Scope



■ - SWITCH
■ - STP
☐ - ADJUNCT
▮ - DATABASE
● - OPERATIONS SUPPORT SYSTEMS
▮ - POINT OF INTERFACE

Network Certification Testing Plan



NRIC Revised Charter

Goal

Assure optimal reliability, interoperability and interconnectivity of, and accessibility to, the public telecommunications networks

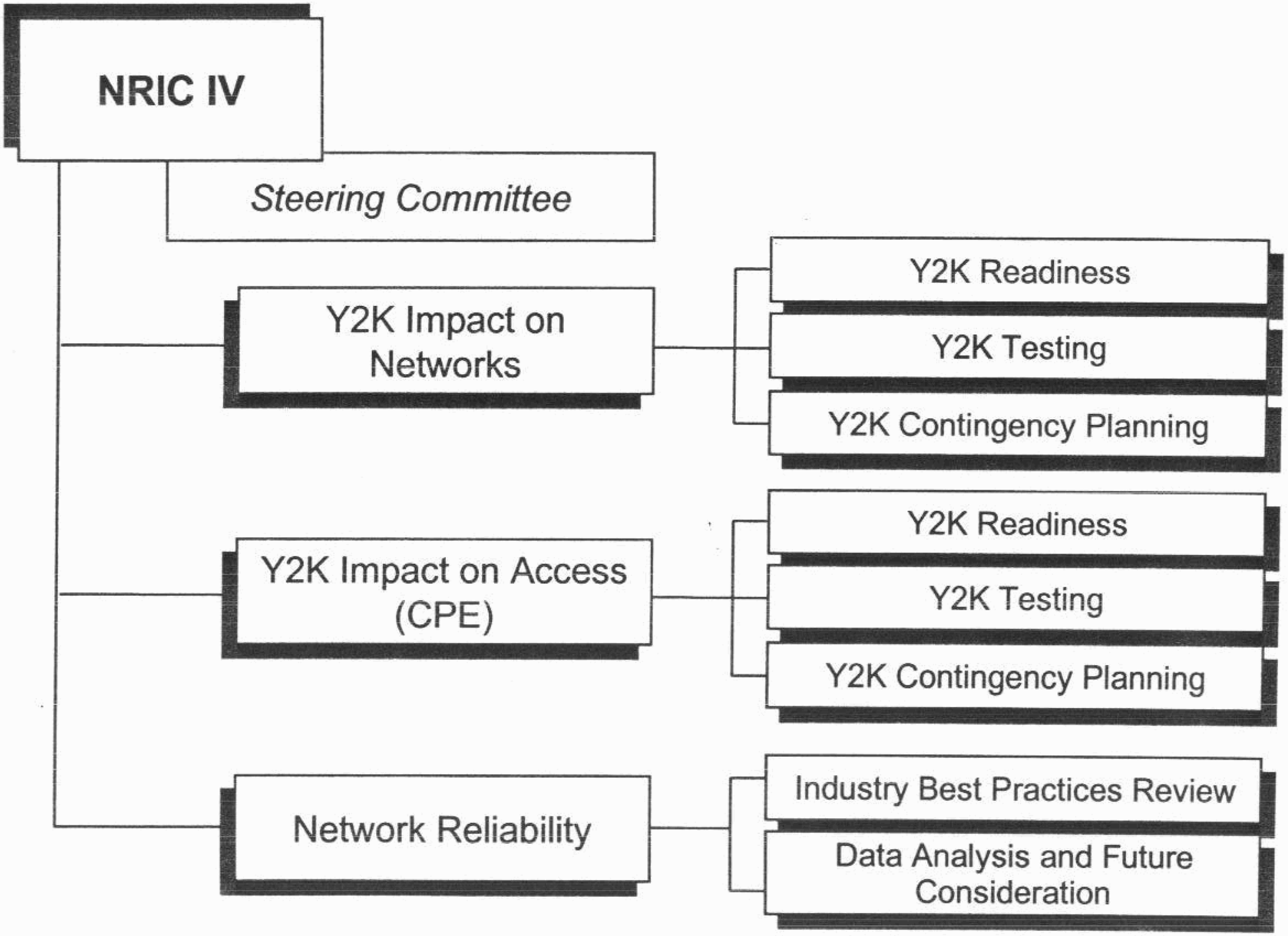
NRIC IV Focus

1 *What is the impact of the "year 2000 problem" on the public telecommunications networks?*

2 *What is the impact of the "year 2000 problem" on access to telecommunications networks and services (i.e., CPE perspective)?*

3 *What is the current status of network reliability?*

NRIC IV Governance



- NRIC IV
  - *Steering Committee*
  - Y2K Impact on Networks
    - Y2K Readiness
    - Y2K Testing
    - Y2K Contingency Planning
  - Y2K Impact on Access (CPE)
    - Y2K Readiness
    - Y2K Testing
    - Y2K Contingency Planning
  - Network Reliability
    - Industry Best Practices Review
    - Data Analysis and Future Consideration

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NRIC IV

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Strategy

- Promote information sharing and joint planning
- Identify testing and contingency plan gaps and formulate solutions

Communication

- Public council meetings
- Meeting minutes available at www.nric.org

Members

- Local carriers, inter-exchange carriers, equipment suppliers, wireless carriers, cable companies, satellite companies, standards and research groups, trade associations, consumers
- Chaired by Mike Armstrong, AT&T Chairman and CEO

NRIC Membership

- 3Com Corporation
- AFL-CIO
- Association for Local Telecommunications Services
- Ameritech
- America Online, Inc.
- Alliance for Public Technology
- Ascend
- Alliance for Telecommunications Industry Solutions
- Bell Atlantic
- Bellcore
- BellSouth Corporation
- The Boeing Company
- Cable Television Laboratories, Inc.
- Cisco Systems, Inc.
- COMSAT Corporation
- Cox Communications
- Cellular Telecommunications Industry Association
- Communications Workers of America
- Frontier Corporation
- GTE Corporation
- Hughes Electronics Corporation
- International Communications Association
- Information Technology Industry Council
- Lucent Technologies
- Matsushita (Panasonic)
- MCI Communications Corp.
- Motorola, Inc.
- National Association of Regulatory Utility Commissioners
- National Association of State Utility Consumer Advocates
- National Communications System
- National Cable Television Association
- Newbridge Networks
- Nextel Communications
- NextWave Telecom Inc.
- Northern Telecom Limited
- National Telecommunications and Information Administration
- The Organization for the Promotion and Advancement of Small Telecommunications Companies
- Office of Science and Technology Policy
- PanAmSat
- Personal Communications Industry Association
- SBC Communications Inc.
- Siemens
- Sony
- Sprint
- The Information Technology and Telecommunications Association
- Telco Year 2000 Forum
- Telecommunications Industry Association
- Time Warner Cable
- US West Communications
- United States Telephone Association

NRIC Network Assessment

- ☐ Provide assessment of Year 2000 compliance of Public Switch Telephone Network (PSTN)
  - Participants:
    - 7 Large Local Exchange Carriers (98.5% of access lines)
    - 22 Medium to Small Local Exchange Carriers (.5% of access lines)
    - 3 Large Inter-Exchange Carriers (82.0% of revenue)
- ☐ International Assessment
  - Presentation by relative risk and potential impact of Year 2000 non-compliance
  - Risk to U.S. ranked by traffic volume

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Large LEC Compliance Status

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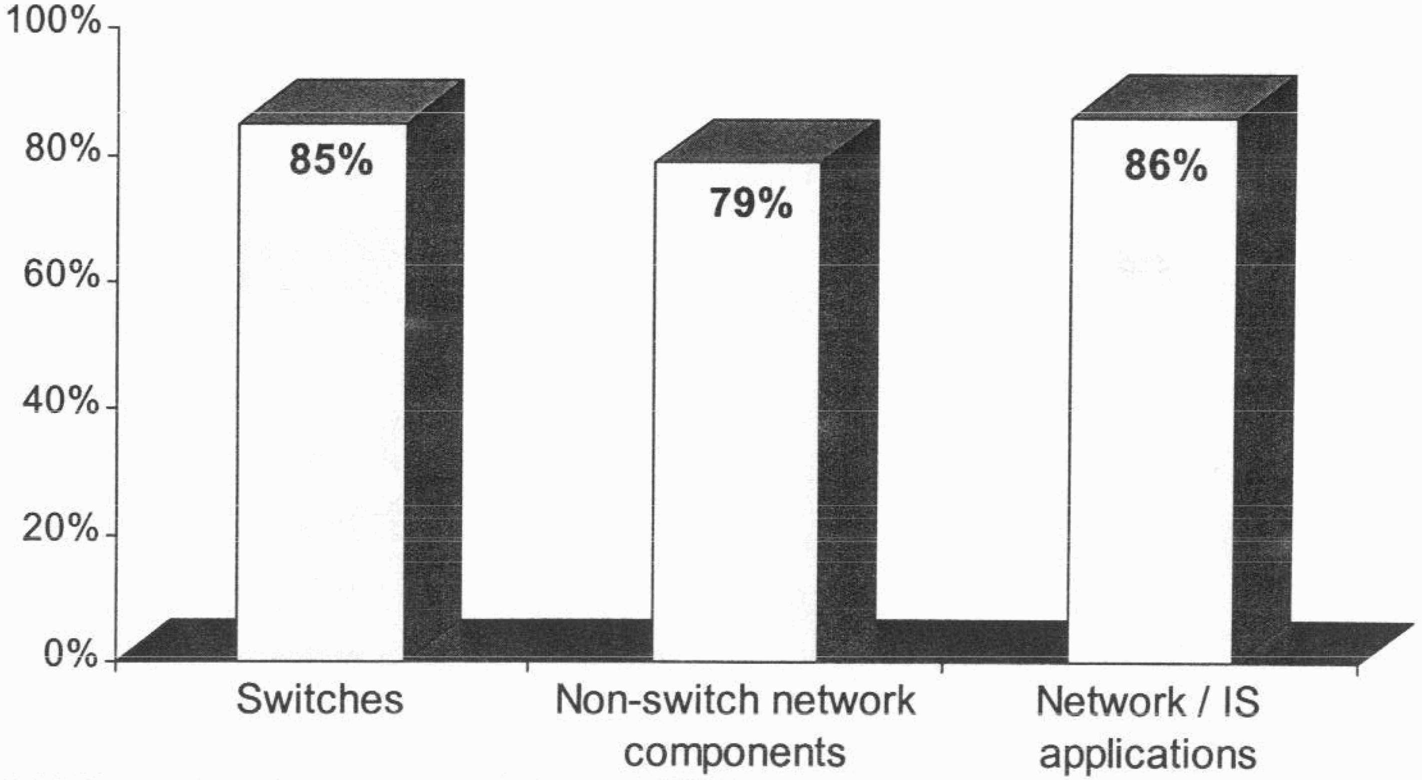
Reflects results (% Y2K-ready) as of 31 December, 1998*



* Source: NRIC Focus Group 1, Subcommittee 1 (Y2K Readiness of the Telephone Industry)

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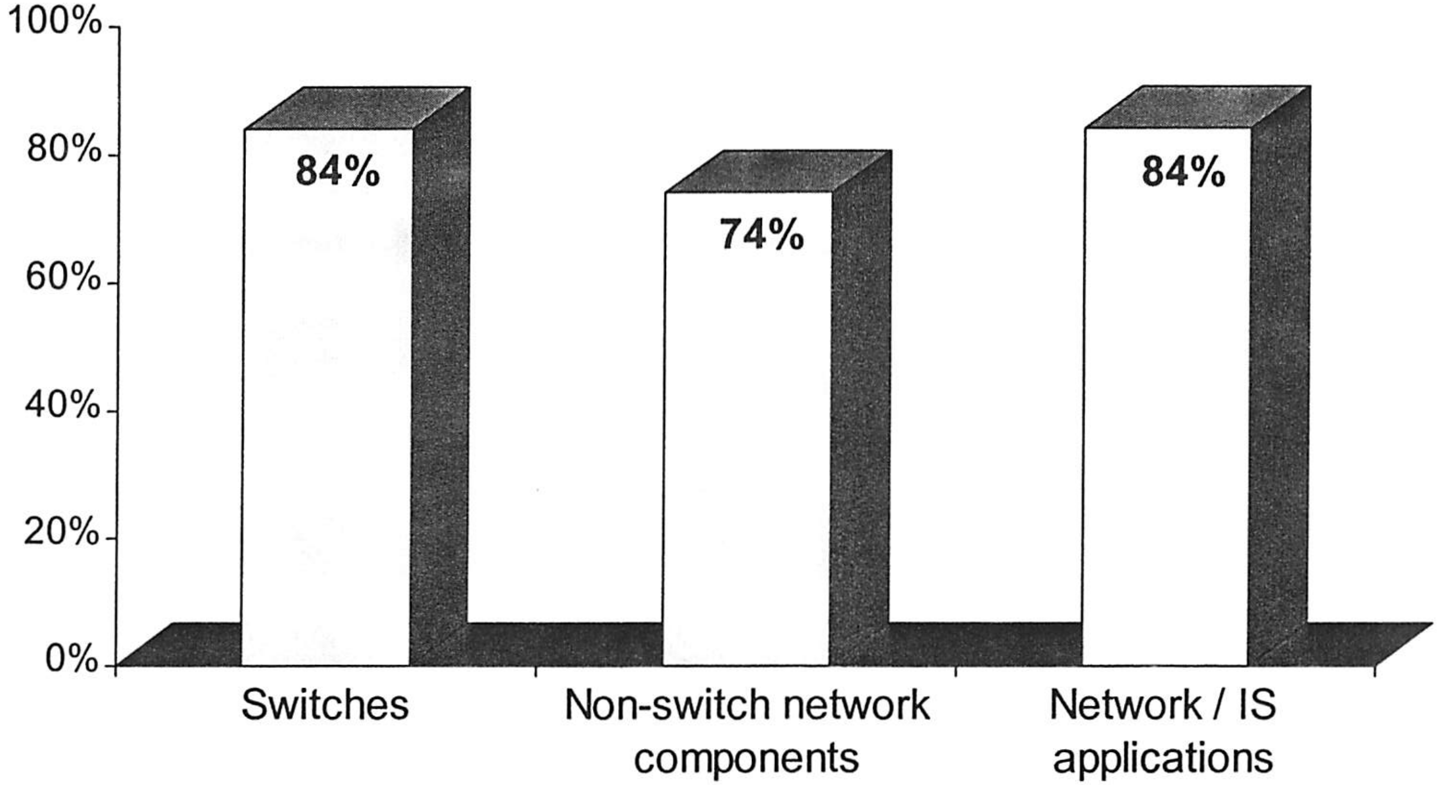
Major IXC Compliance Status

Reflects results (% Y2K-ready) as of 31 December, 1998*



* Source: NRIC Focus Group 1, Subcommittee 1 (Y2K Readiness of the Telephone Industry)

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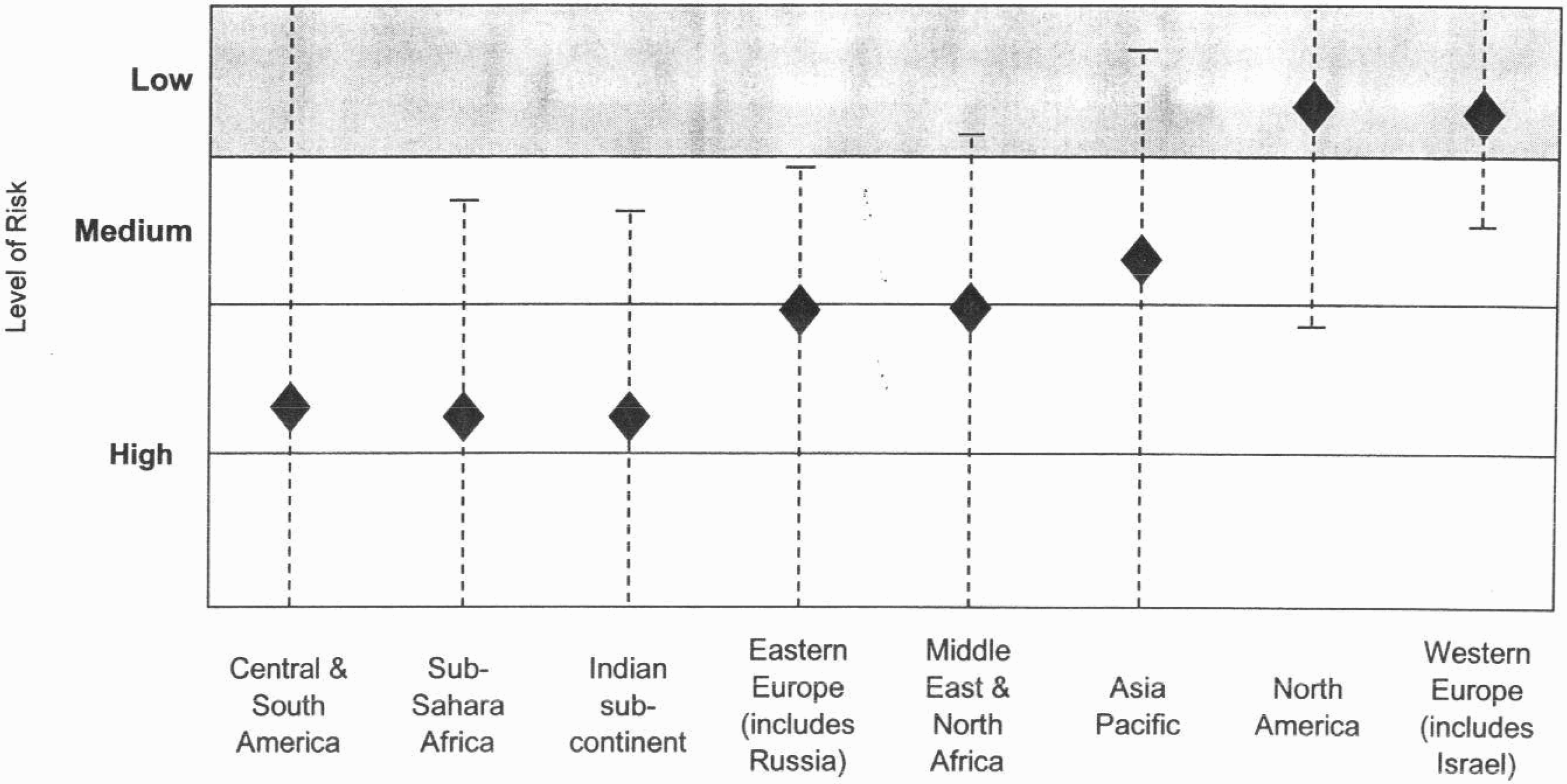
International Status by Region

*Perceptions of risk as of 31 December, 1998**



* Source: NRIC Focus Group 1, Subcommittee 1 (Y2K Readiness of the Telephone Industry)

International Status (by Usage)

*Perceptions of risk as of 31 December, 1998**

Level of Risk	Major Interest (>200M minutes/year)		Significant Interest (100M - 200M minutes/year)	
Low	Dominican Rep. (508) Taiwan (380) France (544) Switzerland (213)	Hong Kong (418) Netherlands (246) Australia (351) UK (1,716)	Chile (111) Sweden (144) Belgium (139) Singapore (151)	Peru (146) Spain (177) Ireland (152)
Medium	India (337) Brazil (385) South Korea (460) Israel (285)	Germany (953) Japan (899) Italy (383)	Argentina (189) Russia (105) Thailand (119)	Pakistan (116) South Africa (101) Poland (165)
High	Colombia (316) Jamaica (231) China (283) Philippines (338)		El Salvador (144) Guatemala (129) Ecuador (146) Saudi Arabia (112) Trinidad (101)	Tobago (101) Greece (117) Venezuela (177) Bahamas (102)

* Source: NRIC Focus Group 1, Subcommittee 1 (Y2K Readiness of the Telephone Industry)

NRIC Recommendations

- ☐ U.S. Government should engage in direct inquiry on Y2K status to countries determined essential to U.S. telecommunication traffic patterns
  - Work with the ITU, U.S. State Department, and others to accurately assess the true risk to the U.S.
- ☐ A more proactive role should be undertaken by the FCC (working the appropriate government offices) to support those countries requesting assistance from the ITU and World Bank and/or that have high telecommunications traffic with the U.S.
- ☐ For countries whose Year 2000 readiness may be an issue to U.S. companies, we recommend that the FCC assign an International Contingency Planning Coordinator to support interested U.S. companies in their contingency planning around regions or specific countries that are perceived to be high Y2K risk

* Source: NRIC Focus Group 1, Subcommittee 1 (Y2K Readiness of the Telephone Industry)

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Network Interoperability Testing

Goal

- ☐ Ensure network elements work across network boundaries
- ☐ Demonstrate internetworking capability to customers and stakeholders
- ☐ Assess readiness of other participants

Focus

- ☐ Signaling interoperability
- ☐ Network call completion
- ☐ Voice / data / private line services

Approach

- ☐ Use industry-wide test environments

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Network Interoperability Testing

Domestic

- ☐ Network Reliability and Interoperability Council (NRIC)
  - Assessment of readiness
  - Testing / contingency planning
  - Information sharing
- ☐ Alliance for Telecommunications Industry Solutions (ATIS)
  - Testing scenarios defined by Network Testing Committee (NTC)
- ☐ Telecommunications Forum
  - Additional intranetwork component testing

International

- ☐ Branded networks
  - Working with Canada and UK
- ☐ Bilateral testing
  - International Telecommunications Union (ITU)
    - ➢ Call completion/charging
    - ➢ CCS7 Signaling
    - ➢ www.itu.int/y2k
  - WorldPartners and Pacific Partners members
  - BT Concert
  - Correspondents

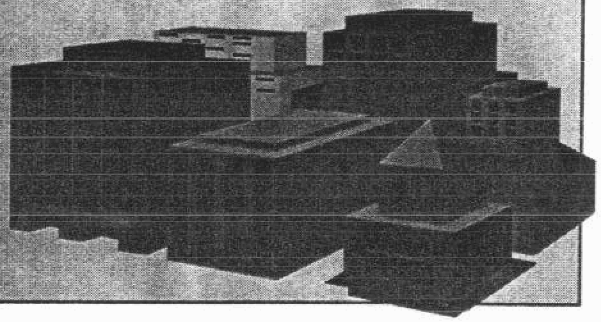
AT&T Network Testing Labs

VOICE

- **Switching (4ESS, 5ESS), Signaling(2STP), Database (2NCP), Adjuncts:**
  - Chicago, Norway & Warrenville, IL
  - Freehold, NJ
  - Columbus, OH
- **Transport**
  - Holmdel, NJ

DATA

- **Transport**
  - Piscataway, NJ
  - Holmdel, NJ
  - Middletown, NJ
  - Lincroft, NJ



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AT&T

Network Interoperability Test Plans

	Proposed testing partner	Ameritech	US West	Bell South	Bell Atlantic	GTE	McLeod	AT&T Canada	Canadian Forum	British Telecom	TELSTRA (Australia)	Telmex (Mexico)	AT&T UK	Alestra (Mexico)	TELIA (Sweden)	KPN (Netherlands)	Hong Kong	South Africa Telekom	TELENOR (Norway)	Sing Tel (Singapore)	SwissCom	CTC-Mundo (Chile)	CANTV (Venezuela)	KDD (Japan)	Stentor (Canada)	Telintar (Argentina)	Customer Segments
	Key vendor components to be tested	*various*							*multiple*	*Ericsson*	*Alcatel*	*Lucent*	*Lucent*	*Lucent*	*Ericsson*	*multiple*	*Ericsson*	*Siemens*	*Alcatel*	*TBD*	*Siemens*	*TBD*	*Ericsson*	*TBD*	*multiple*	*Siemens*	*various*
Voice	*Signaling*	C	C			C	u																		C		
	Domestic 1+			C			u	C	C																		u
	Domestic 800			C			u	C	C																		u
	SDN			C			u																				u
	0+ (card, collect, etc.)			C				C	C			u															
	Directory Assistance																										
	Int'l Direct Distance Dial								C	u	u	u	C	C	a		p	s	a	a	s	u	a	u		u	u
Private Line	*T1.5*			s	u						u	a				s				a						u	u
	E1										u	a				s				u						u	
	T45															s											
Data	*AT&T Frame Relay*										u									u							u
	ATM										a																
IP	*Dialed / Direct*																										u

Completed	**In progress**	**Scheduled**	**Agreement in place**	**Under discussion**

End-to-End Call Testing

- Across AT&T networks and selected domestic/international access and egress provider networks
  - Services that cover 80% of average daily call mix
  - Countries/PTTs that cover major network switch vendors
- Customer testing
  - Lab-to-lab testing with selected customer groups (e.g., banks, power companies, transportation, health care, law enforcement, government and public safety organizations)
- Engage industry groups
  - Basic call types
  - Sample of access configurations and geographic dispersions
  - Encourage observation of tests
- "Live" network call testing
  - *Aspen* tool

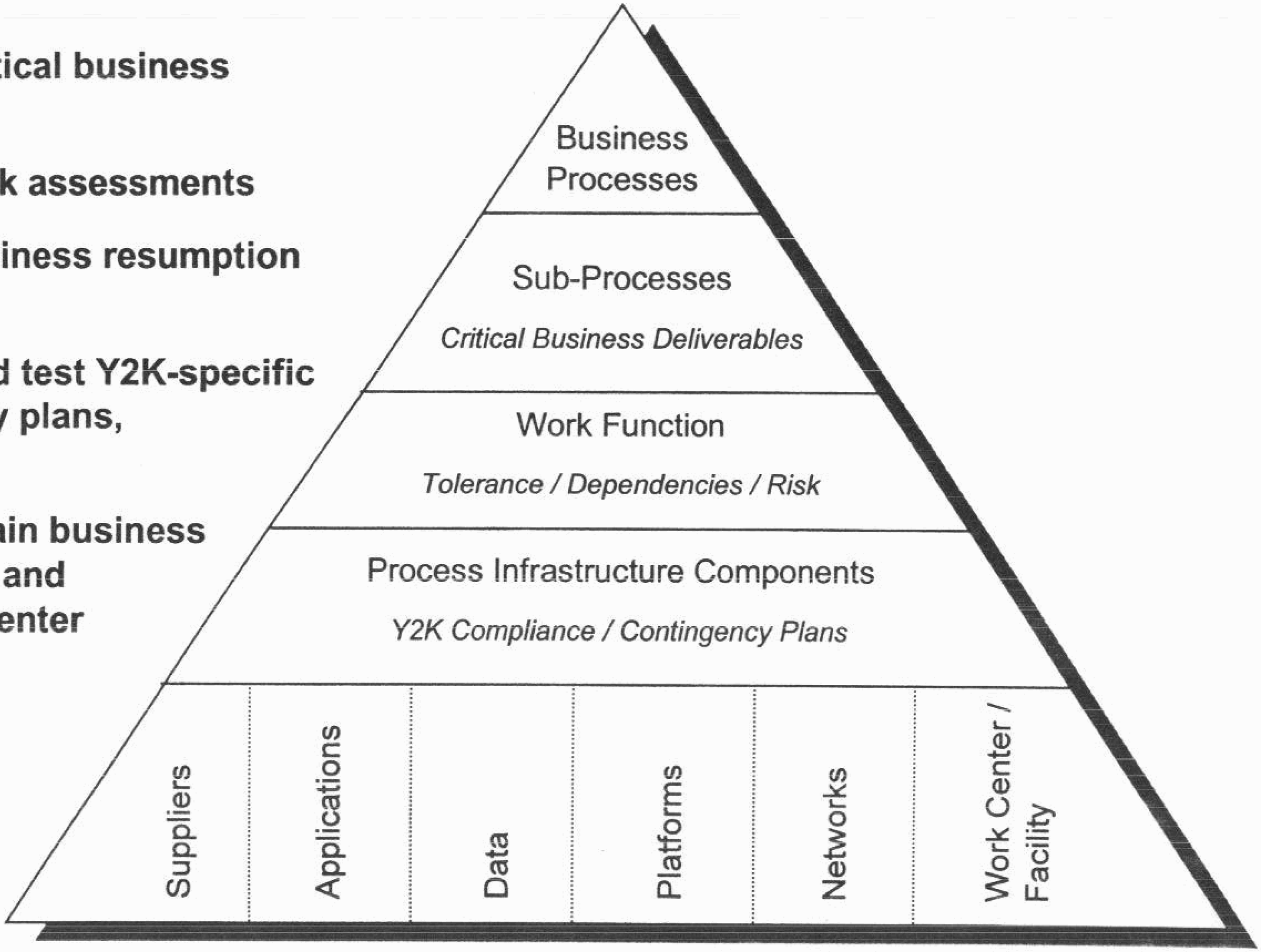
Customer Segments

Financial	MBNA-led consortium (MBNA, Visa, MasterCard, Bank of America/Nations Bank, First Data Corp., Wells Fargo, JP Morgan, AMEX)
Insurance	Travelers AAA
Transportation	Air Transport Association (ATA) Aeronautical Radio, Inc. (ARINC)
Manufacturing	National Association of Manufacturers
Retail	National Retail Federation (NRF) LL Bean
Power Utilities	North American Electric Reliability Council (NERC) Public Service Electric & Gas New York Power Pool / New York Power Authority PJM Central Hudson Electric & Gas Bell Atlantic
Health Care	PCS Health Systems Kaiser Permanente
Federal Government	National Communications System
Law Enforcement	TBD
Entertainment	Holland America Cruise Line

- **Industry segment / customer testing negotiations in progress**
- **Mix of test modes**
  - **Lab-to-lab**
  - **Observer**
- **Key services to be tested:**
  - **Megacom 800**
  - **1+ voice**
  - **SDN**
  - **ISDN**
  - **Frame relay**
  - **T1.5**
  - **Private line**
  - **Network management tools**
  - **Government Emergency Telephone Service (GETS)**

Contingency Planning: Approach

- Validate critical business priorities
- Conduct risk assessments
- Identify business resumption issues
- Develop and test Y2K-specific contingency plans, as needed
- Staff and train business resumption and command center teams



Business Processes

Sub-Processes

Critical Business Deliverables

Work Function

Tolerance / Dependencies / Risk

Process Infrastructure Components

Y2K Compliance / Contingency Plans

Suppliers | Applications | Data | Platforms | Networks | Work Center / Facility

Contingency Planning

☐ **Identified 85 business processes / functions**

☐ **Applied "triage"**

- **37 *critical* processes**
- **33 *important* processes**
- **15 *support* processes**

- **Working with critical process teams**

	1Q 1999	2Q 1999	3Q 1999	4Q 1999
Critical processes				
Plans completed	100%			
Plans certified	45%	100%		
Important processes				
Plans completed	40%	75%	100%	
Plans certified	25%	60%	100%	
Support processes				
Plans completed	10%	40%	80%	100%
Plans certified			60%	100%

YEAR 2000

Contingency Plans : Examples

Communications Processes

- Intra-company, customers, industry partners
- Multiple paths and technologies
- Connectivity: centers and field
- Formalized procedures and contacts
- "Follow the Sun"

Network Management

- State of alert: monitor and act
- Network Control Center backups
- International country reroutes
- Capacity & controls: overload, congestion, corruption
- Network capacity expansion

Personnel Availability

- Year-end vacation advisory
- Pre-positioning of AT&T personnel
- Agreements with vendors / contractors
- Business resumption teams

Infrastructure Dependencies

- Proactive staging for:
  - Power / fuel / water
  - Heating/ air conditioning/ ventilation
  - Alternate power supplies
  - Uniterruptible power supplies

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AT&T Actions

- ☐ Continue with interoperability testing to determine areas of concern
- ☐ Share Y2K process, procedures, test plans / results and contingency plans
- ☐ Use diverse traffic routing plans to circumvent trouble spots
- ☐ Deploy VSAT (satellite) technology to bypass troubled wireline access
- ☐ Engineer additional network capacity to absorb anticipated volume increases due to competitors' problems
- ☐ Partner with customers to establish AT&T-based alternate access arrangements and other contingency plans

YEAR 2000

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Communications Strategies

External Communications

- Reassure customers that AT&T is on target to be Y2K-compliant
- Deliver consistent message to external communities (customers, financial analysts, media)

- Y2K Customer Support team as single point-of-contact for information
- Internet Web site: http://www.att.com/year2000
- Customer Support Hotline: 877-Y2K4ATT
- Extensive customer interactions
- Active participation in government forums

Internal Communications

- Deliver consistent message
- Increase AT&T associate awareness of Y2K issues and project framework
- Engage participation and support
- Instill sense of urgency

- Y2K Communications Project Office as single point-of-contact for information
- Intranet Web sites refreshed monthly
- Sales support tools
  - Presentation package
  - Customer discussion points
  - Customer information package
- Y2K conferences/forums
- Targeted communications via newsletters, TV monitor messages, etc.

AT&T

AT&T YEAR 2000

It's all within your reach.

Fri., Dec. 11, 1998

Year 2000 Readiness Disclosure.

- YEAR 2000
- NEWS BYTES
- OVERVIEW
- TESTING
- SCORECARD
- PRODUCTS AND SERVICES
- ASK US

Overview

The challenge and AT&T's solution

NEWS BYTES

Site updated on Dec. 9, 1998

AT&T Tells Congress,
"We won't let you down."

Company spokesperson addresses Subcommittee on Oversight of the Committee on Ways and Means, U.S. House of Representatives

[MORE]

AT&T execs leading
Y2K government council

C. Michael Armstrong, Chairman and CEO of AT&T, is chairing the Network Reliability and Interoperability Council (NRIC) and John Pasqua, AT&T Year 2000 Program Vice President, is heading a Y2K NRIC steering committee.

[LINK TO NRIC]

Year 2000 | News Bytes | Overview | Testing
Scorecard | Products & Services | Ask Us

Program Completion

1999 targeted for final assurance of Y2K-compliance ...

- ☐ Independent verification of critical applications
- ☐ Deployment of all applications in Y2K-certified production environments
- ☐ Deployment of all Y2K-certified network elements
- ☐ All AT&T sites (non-IT infrastructure) certified Y2K-compliant
- ☐ End-to-end testing completed for applications, environments, systems, ...
- ☐ Network interoperability testing
- ☐ Y2K-specific contingency plans certified and tested

Summary

- ☐ Made 1998 commitments!
  - All plans in place to meet 1999 objectives
- ☐ Centralized program management / decentralized implementation
- ☐ Board of Directors / CEO engaged
- ☐ Triaging -- customer-driven priorities
- ☐ Funding/objectives assurance
- ☐ Interoperability testing / contingency plans being defined for early 1999

The AT&T Y2K program will be successful!

YEAR 2000

AT&T

Y2K Program Update

Michael P. Donnelly

AT&T Year 2000 Customer Liaison

Year 2000 Readiness Disclosure

YEAR 2000

AT&T

Agenda

- ☐ AT&T Approach
- ☐ Program Status
- ☐ AT&T Networks
- ☐ Testing Strategies
- ☐ Network Reliability and Interoperability Council
- ☐ 1999 Program
- ☐ Summary

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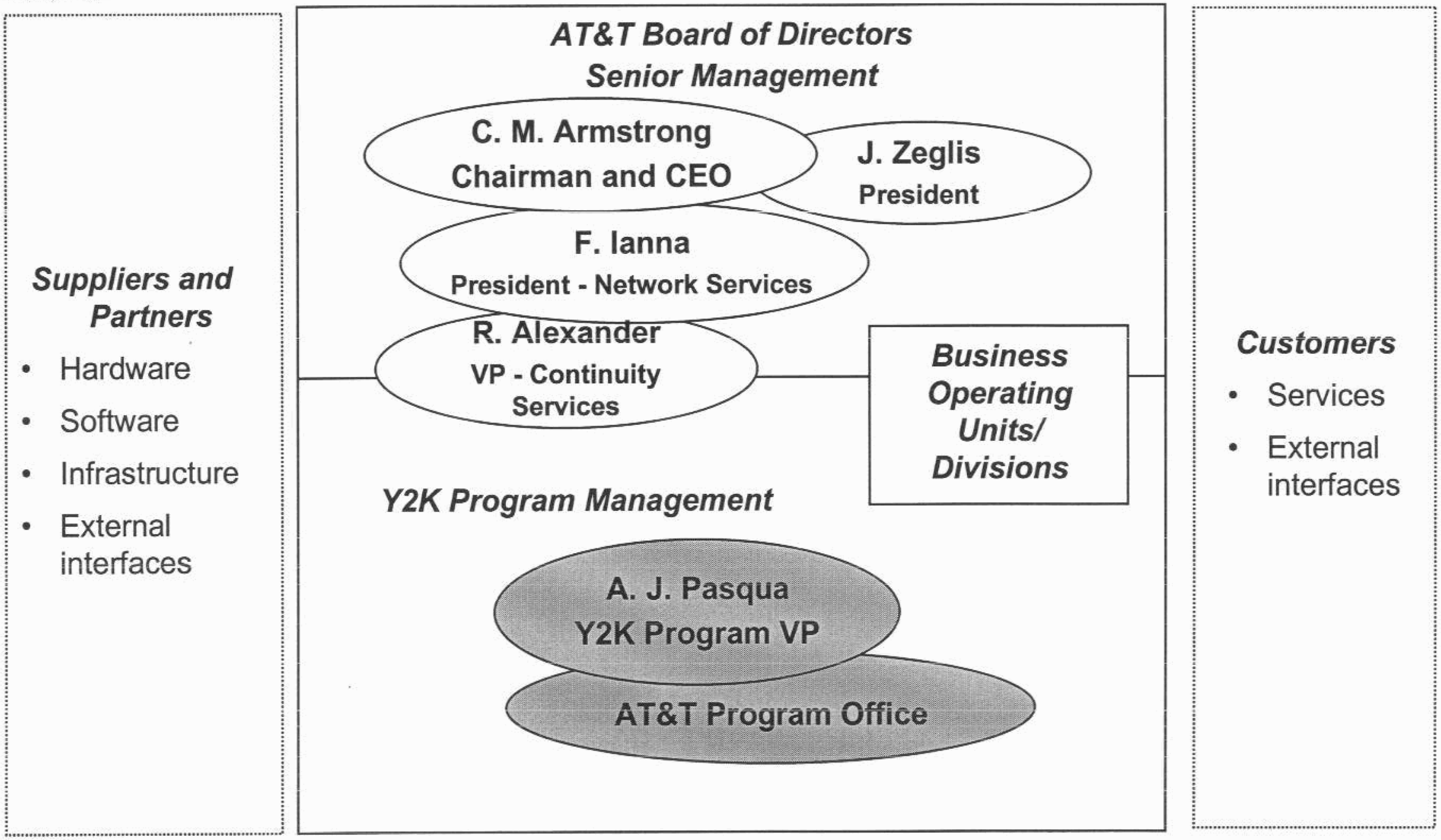
Roles / Responsibilities



Suppliers and Partners

- Hardware
- Software
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Business Operating Units/ Divisions

Y2K Program Management

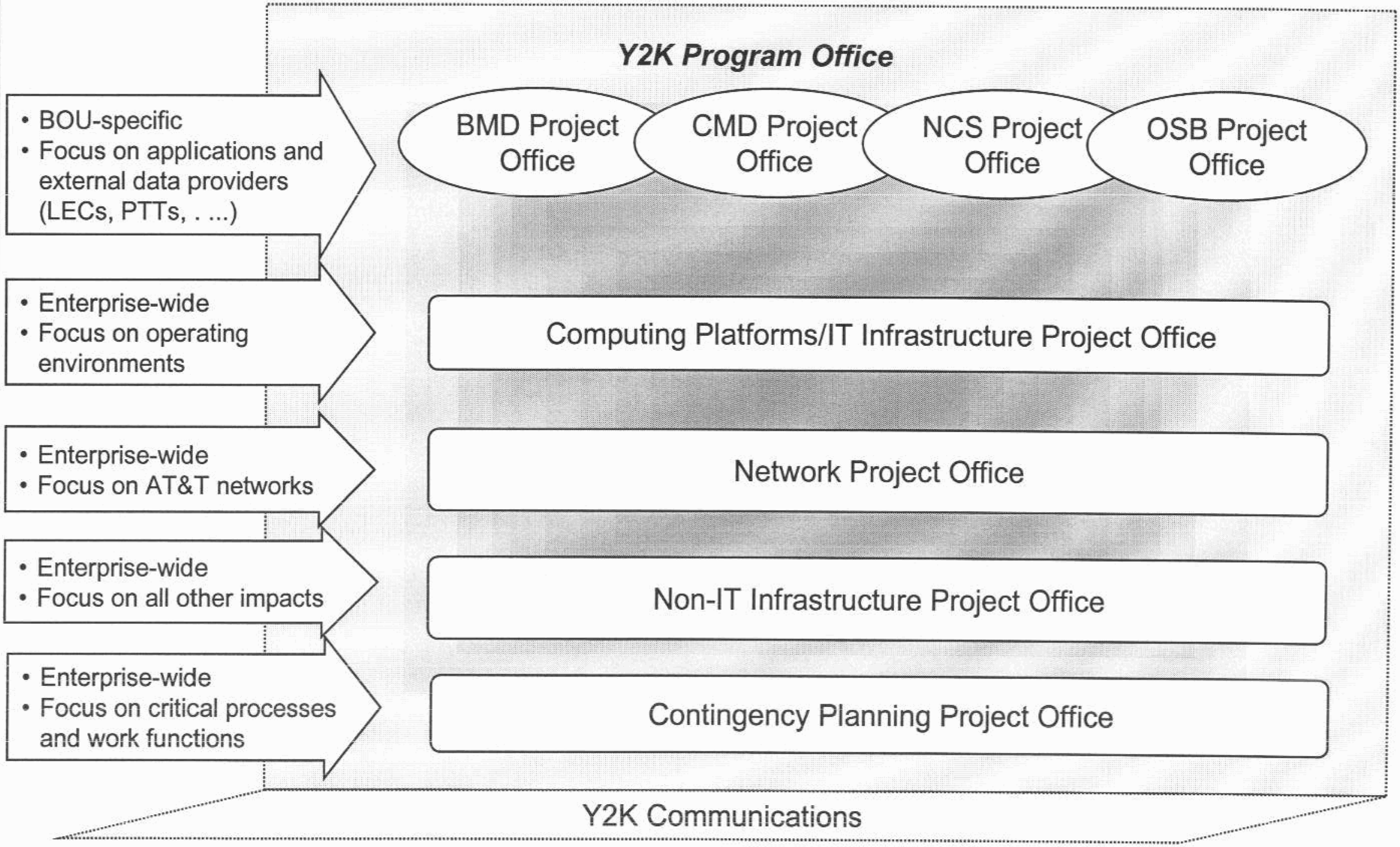
A. J. Pasqua
Y2K Program VP

AT&T Program Office

Customers

- Services
- External interfaces

Governance Structure



- BOU-specific
- Focus on applications and external data providers (LECs, PTTs, ...)

- Enterprise-wide
- Focus on operating environments

- Enterprise-wide
- Focus on AT&T networks

- Enterprise-wide
- Focus on all other impacts

- Enterprise-wide
- Focus on critical processes and work functions

Y2K Program Office

BMD Project Office

CMD Project Office

NCS Project Office

OSB Project Office

Computing Platforms/IT Infrastructure Project Office

Network Project Office

Non-IT Infrastructure Project Office

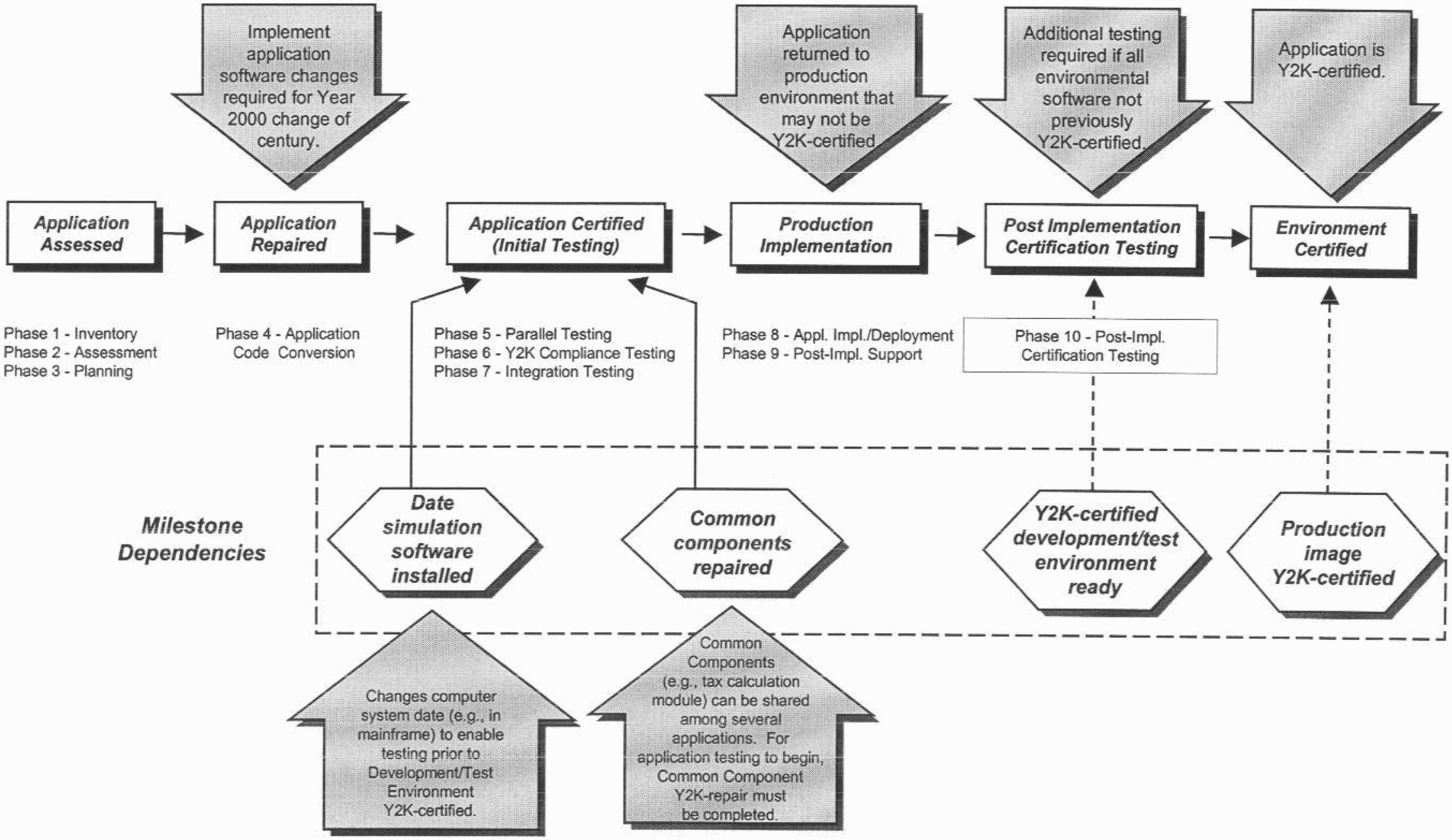
Contingency Planning Project Office

Y2K Communications

YEAR 2000

AT&T

Process Road Map



Implement application software changes required for Year 2000 change of century.

Application returned to production environment that may not be Y2K-certified.

Additional testing required if all environmental software not previously Y2K-certified.

Application is Y2K-certified.

Application Assessed → **Application Repaired** → ***Application Certified (Initial Testing)*** → **Production Implementation** → **Post Implementation Certification Testing** → **Environment Certified**

Phase 1 - Inventory
Phase 2 - Assessment
Phase 3 - Planning

Phase 4 - Application Code Conversion

Phase 5 - Parallel Testing
Phase 6 - Y2K Compliance Testing
Phase 7 - Integration Testing

Phase 8 - Appl. Impl./Deployment
Phase 9 - Post-Impl. Support

Phase 10 - Post-Impl. Certification Testing

Milestone Dependencies

Date simulation software installed

Common components repaired

Y2K-certified development/test environment ready

Production image Y2K-certified

Changes computer system date (e.g., in mainframe) to enable testing prior to Development/Test Environment Y2K-certified.

Common Components (e.g., tax calculation module) can be shared among several applications. For application testing to begin, Common Component Y2K-repair must be completed.

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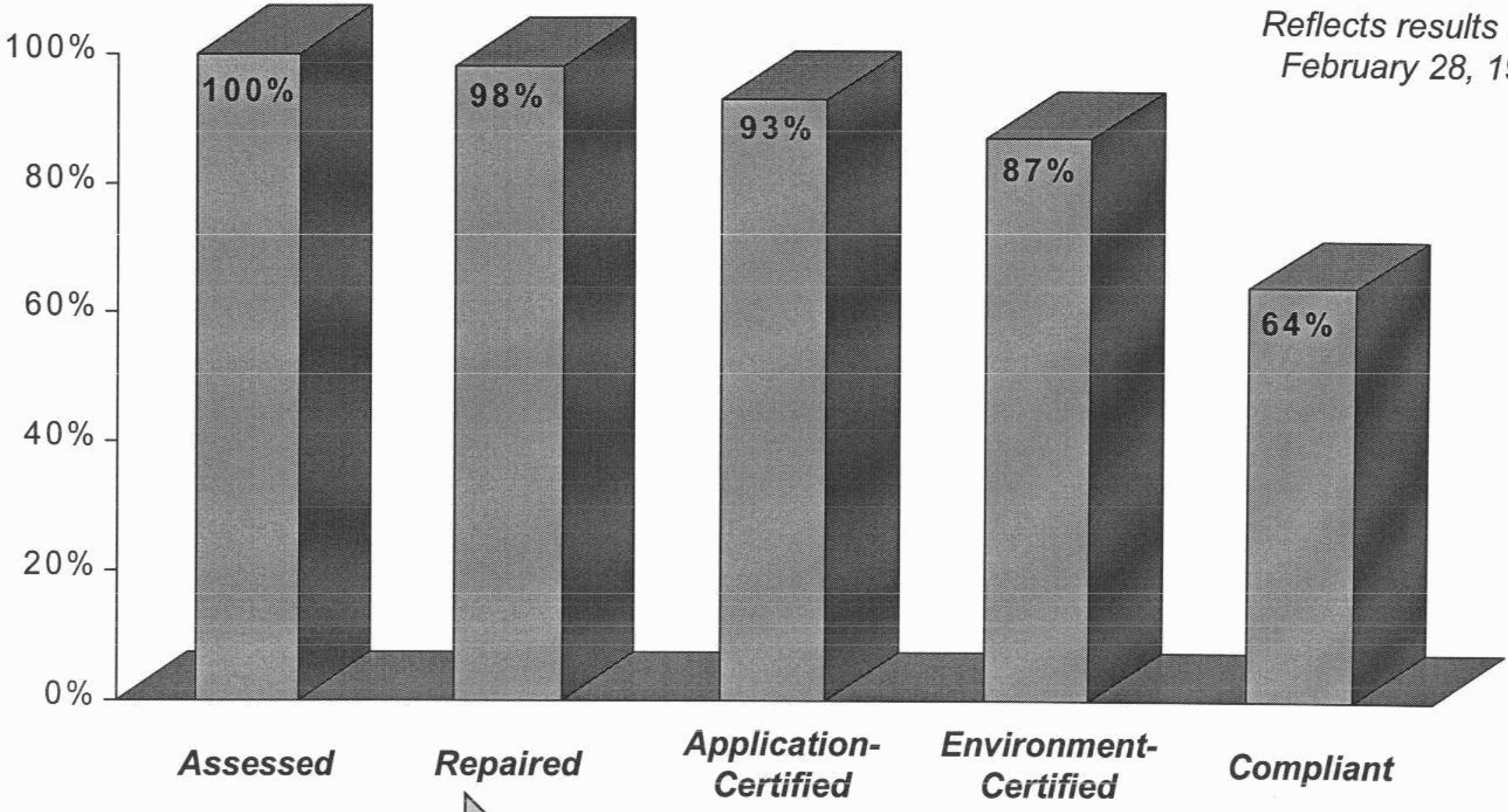
AT&T Applications: Program Status



Reflects results as of February 28, 1999

Target

100% compliance by 30 June, 1999

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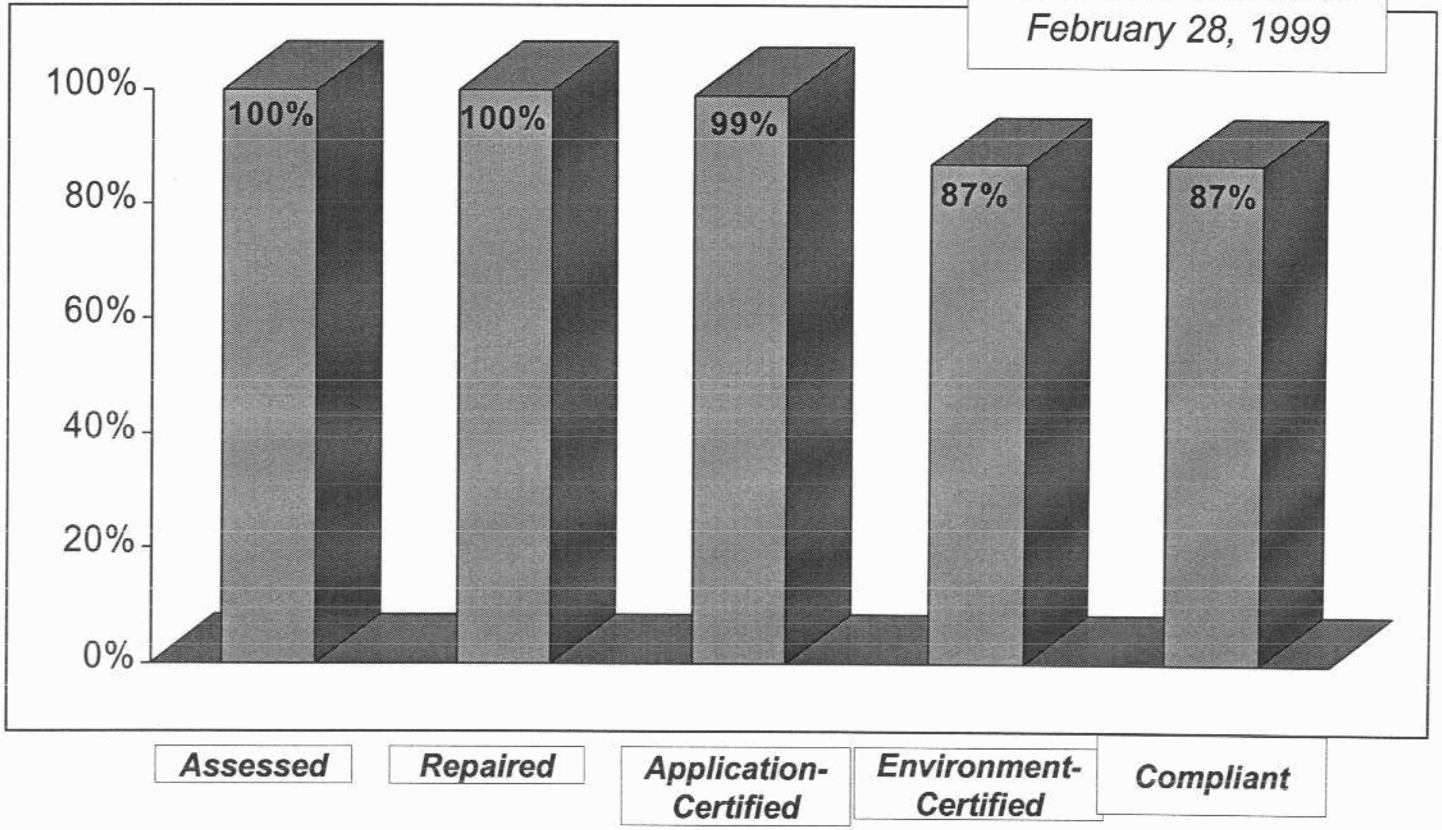
AT&T

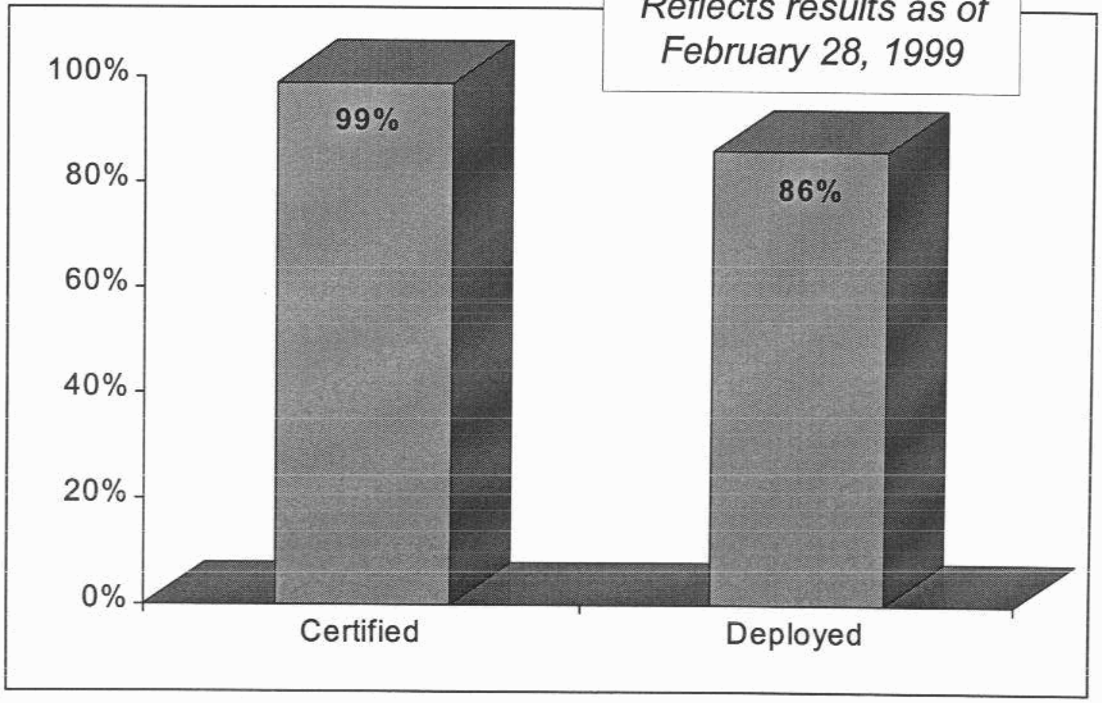
Network Operations Support Systems (OS)

- Over 470 OS/applications supporting AT&T voice/data networks
  - Predominantly internally developed
- Rigorous Y2K process



Network Elements (NE)

- ☐ Over 800 NEs (switches, routers, network control points, etc.)
  - 100% assessed
  - Over 80% already compliant, non-impacted or to be retired
- ☐ Working with NE suppliers to monitor their Y2K certification programs
- ☐ Additional Y2K testing to independently verify supplier claims
  - Unit testing / certification
  - Integrated testing with OS / application
- ☐ Target = 100% deployment by end of second quarter 1999



Reflects results as of February 28, 1999

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Network Goal

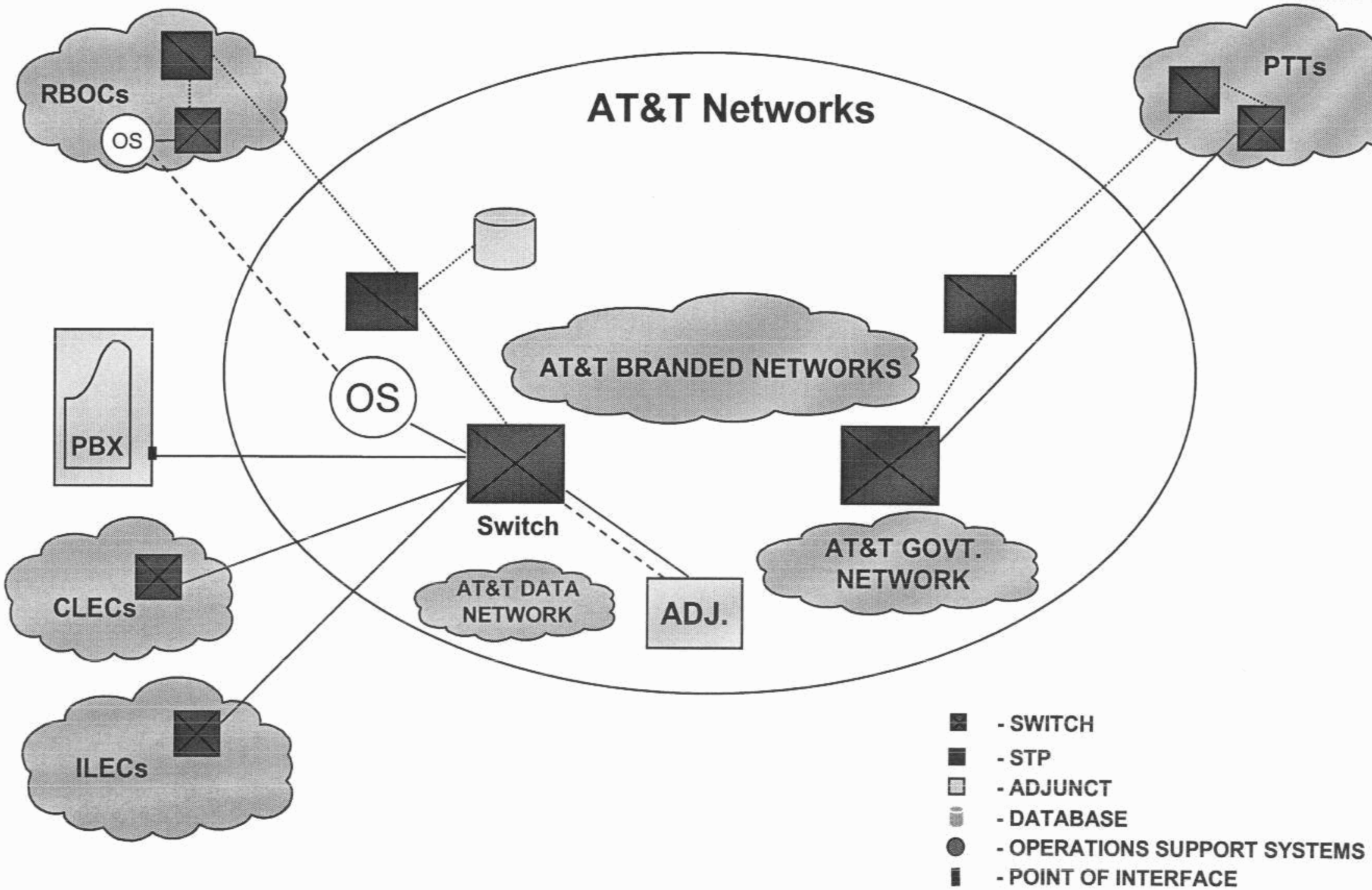
AT&T

Ensure that there is no degradation to Network Services' reliability caused by the millennium change

Focal points are AT&T's physical network, its operations support systems and their interoperability with customer premises equipment and other carrier networks

YEAR 2000

Network Scope



- ☒ - SWITCH
- ■ - STP
- ☐ - ADJUNCT
- ▮ - DATABASE
- ● - OPERATIONS SUPPORT SYSTEMS
- ▮ - POINT OF INTERFACE

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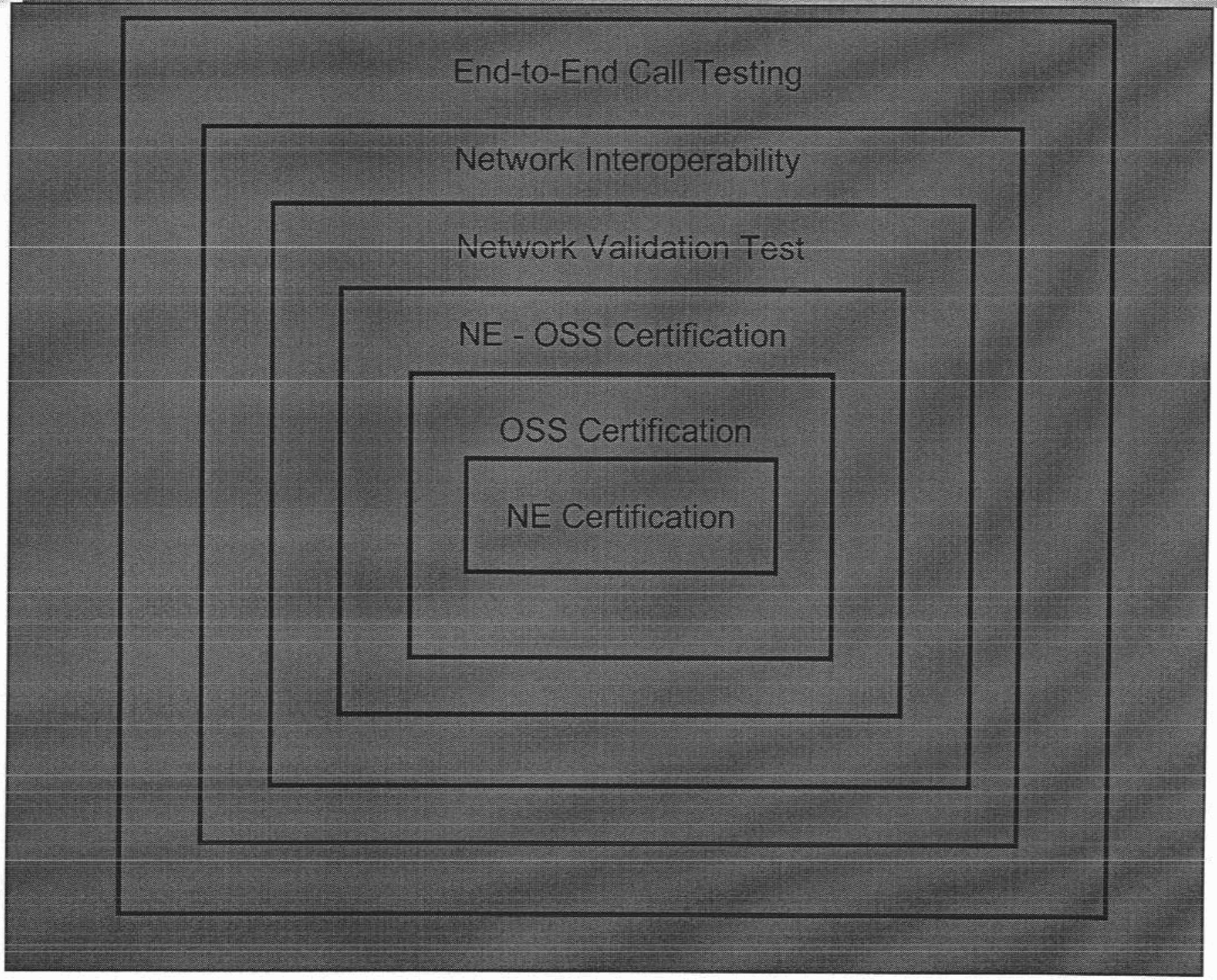
Network Certification Testing Plan

AT&T



End-to-End Call Testing

Network Interoperability

Network Validation Test

NE - OSS Certification

OSS Certification

NE Certification

NRIC Revised Charter

Goal

Assure optimal reliability, interoperability and interconnectivity of, and accessibility to, the public telecommunications networks

NRIC IV Focus

1 *What is the impact of the "year 2000 problem" on the public telecommunications networks?*

2 *What is the impact of the "year 2000 problem" on access to telecommunications networks and services (i.e., CPE perspective)?*

3 *What is the current status of network reliability?*

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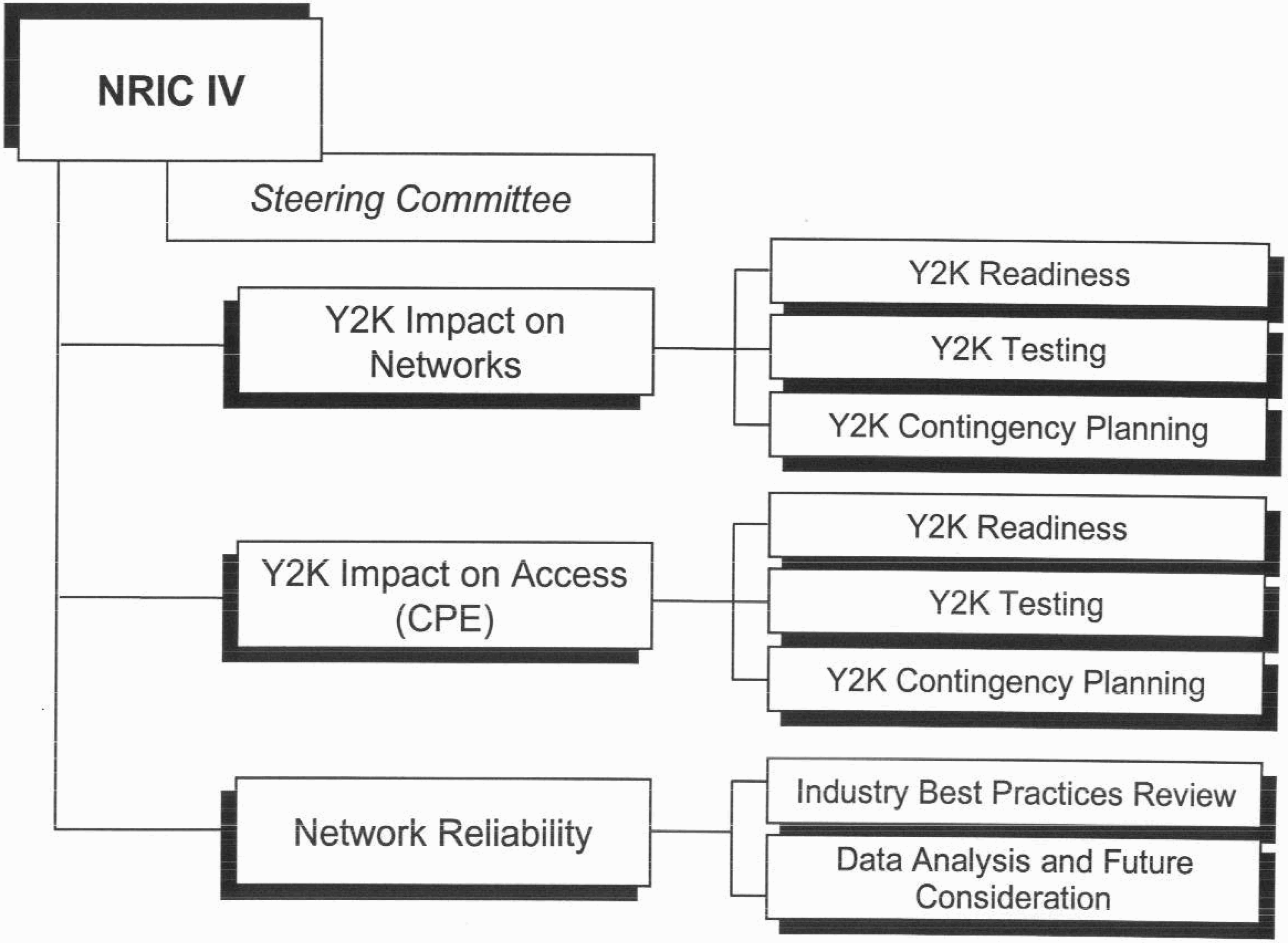
NRIC IV Governance



NRIC IV

Steering Committee

Y2K Impact on Networks
- Y2K Readiness
- Y2K Testing
- Y2K Contingency Planning

Y2K Impact on Access (CPE)
- Y2K Readiness
- Y2K Testing
- Y2K Contingency Planning

Network Reliability
- Industry Best Practices Review
- Data Analysis and Future Consideration

NRIC IV

Strategy

- Promote information sharing and joint planning
- Identify testing and contingency plan gaps and formulate solutions

Communication

- Public council meetings
- Meeting minutes available at www.nric.org

Members

- Local carriers, inter-exchange carriers, equipment suppliers, wireless carriers, cable companies, satellite companies, standards and research groups, trade associations, consumers
- Chaired by Mike Armstrong, AT&T Chairman and CEO

NRIC Membership

- 3Com Corporation
- AFL-CIO
- Association for Local Telecommunications Services
- Ameritech
- America Online, Inc.
- Alliance for Public Technology
- Ascend
- Alliance for Telecommunications Industry Solutions
- Bell Atlantic
- Bellcore
- BellSouth Corporation
- The Boeing Company
- Cable Television Laboratories, Inc.
- Cisco Systems, Inc.
- COMSAT Corporation
- Cox Communications
- Cellular Telecommunications Industry Association
- Communications Workers of America
- Frontier Corporation
- GTE Corporation
- Hughes Electronics Corporation
- International Communications Association
- Information Technology Industry Council
- Lucent Technologies
- Matsushita (Panasonic)
- MCI Communications Corp.
- Motorola, Inc.
- National Association of Regulatory Utility Commissioners
- National Association of State Utility Consumer Advocates
- National Communications System
- National Cable Television Association
- Newbridge Networks
- Nextel Communications
- NextWave Telecom Inc.
- Northern Telecom Limited
- National Telecommunications and Information Administration
- The Organization for the Promotion and Advancement of Small Telecommunications Companies
- Office of Science and Technology Policy
- PanAmSat
- Personal Communications Industry Association
- SBC Communications Inc.
- Siemens
- Sony
- Sprint
- The Information Technology and Telecommunications Association
- Telco Year 2000 Forum
- Telecommunications Industry Association
- Time Warner Cable
- US West Communications
- United States Telephone Association

NRIC Network Assessment

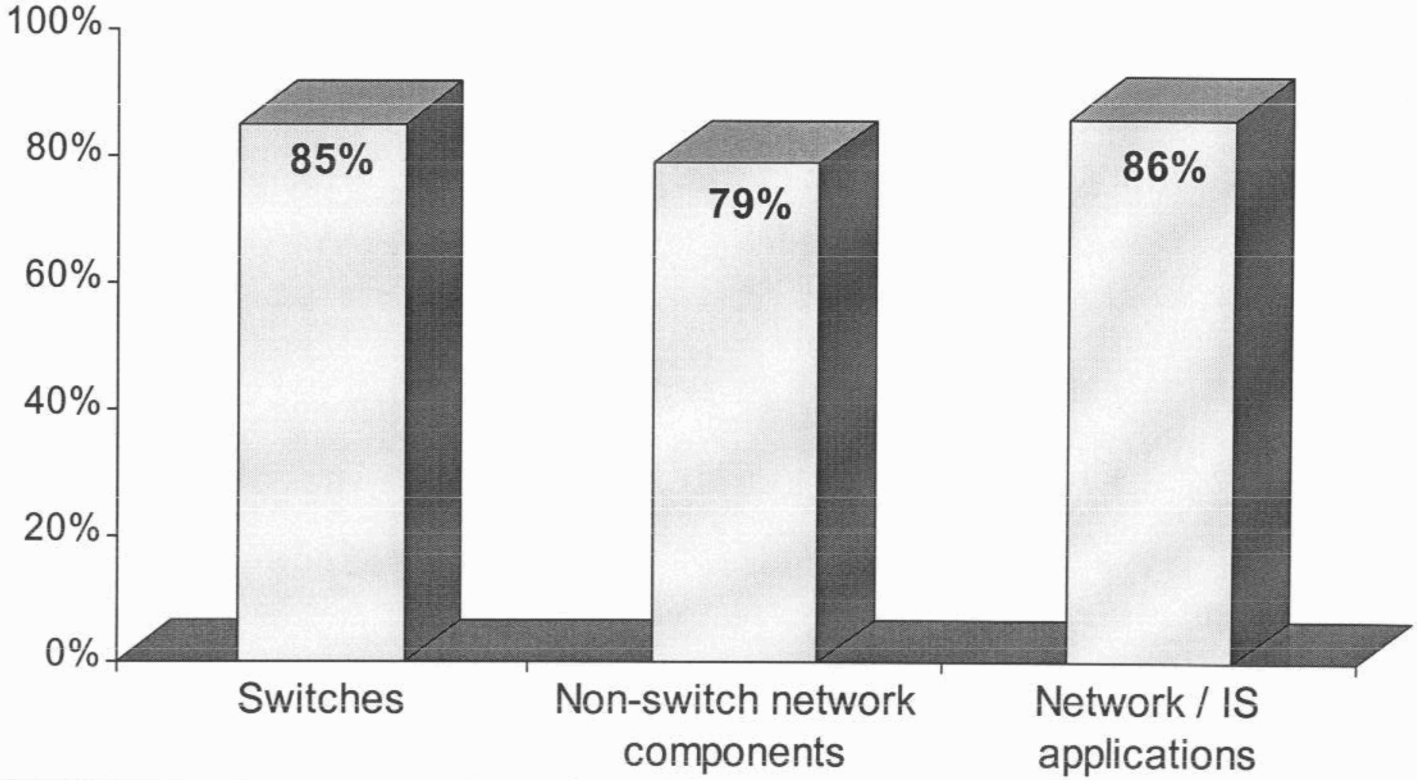
- ☐ Provide assessment of Year 2000 compliance of Public Switch Telephone Network (PSTN)
  - Participants:
    - 7 Large Local Exchange Carriers (98.5% of access lines)
    - 22 Medium to Small Local Exchange Carriers (.5% of access lines)
    - 3 Large Inter-Exchange Carriers (82.0% of revenue)
- ☐ International Assessment
  - Presentation by relative risk and potential impact of Year 2000 non-compliance
  - Risk to U.S. ranked by traffic volume

YEAR 2000

Large LEC Compliance Status

AT&T

Reflects results (% Y2K-ready) as of 31 December, 1998*



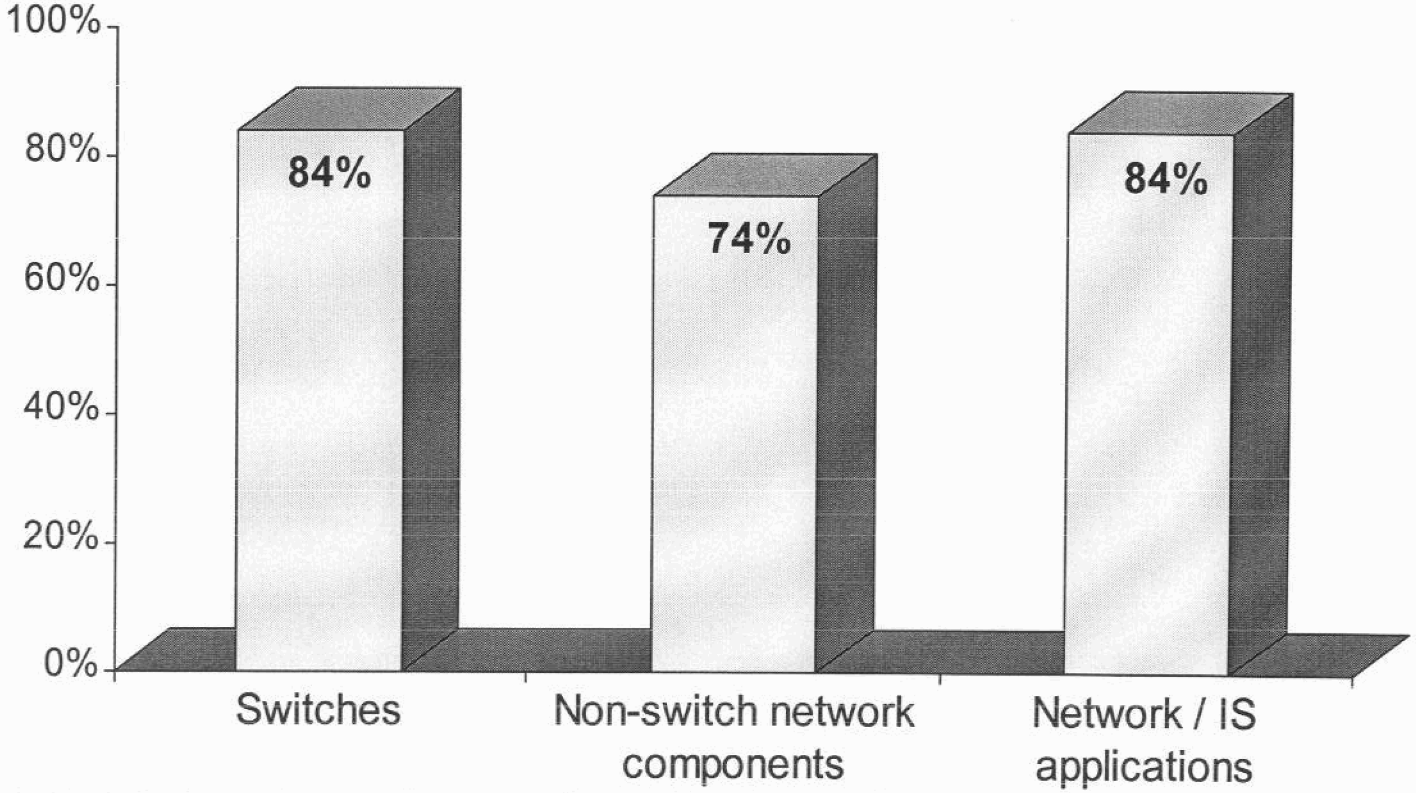
* Source: NRIC Focus Group 1, Subcommittee 1 (Y2K Readiness of the Telephone Industry)

YEAR 2000

Major IXC Compliance Status

AT&T

Reflects results (% Y2K-ready) as of 31 December, 1998*



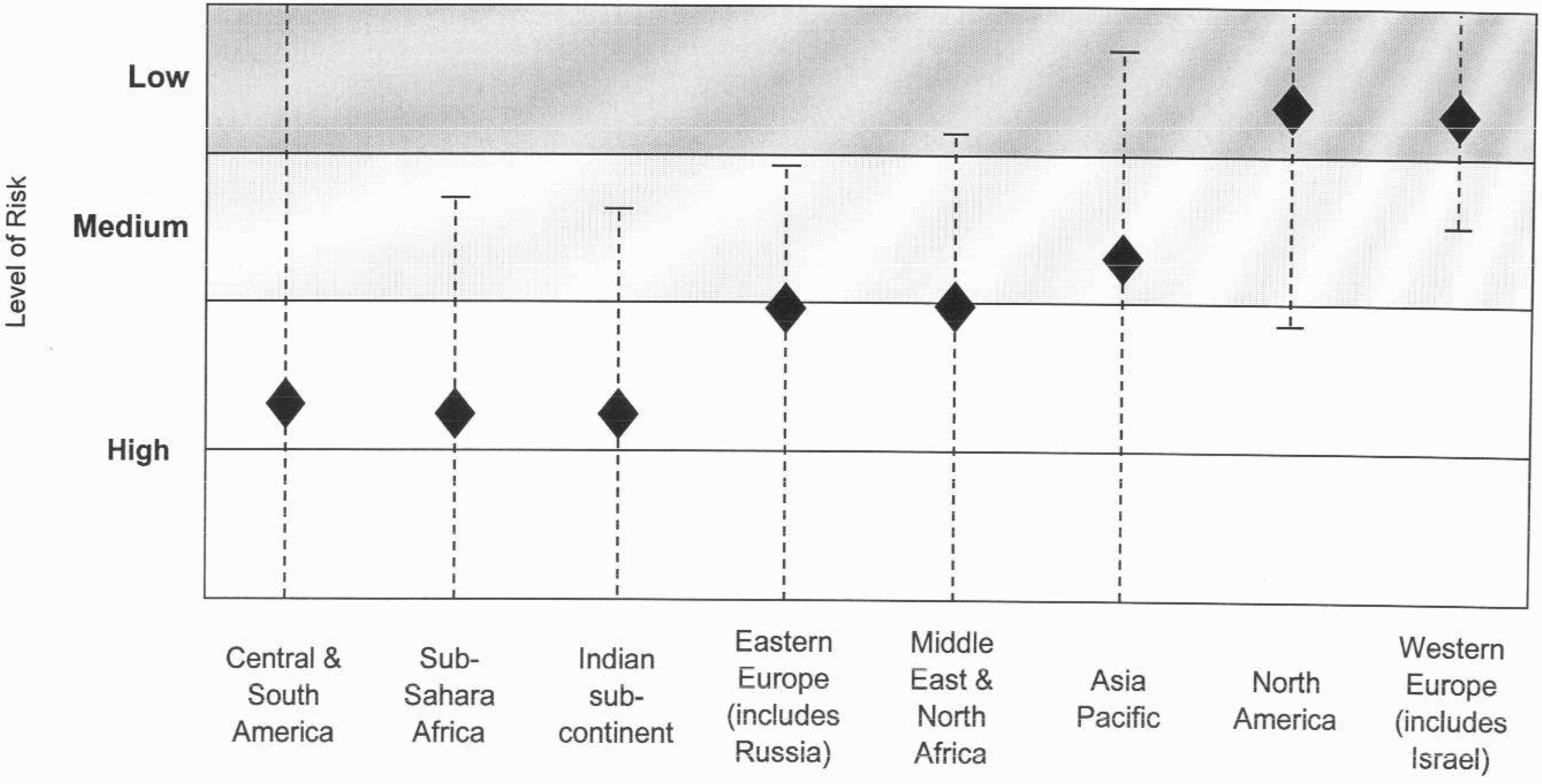
* Source: NRIC Focus Group 1, Subcommittee 1 (Y2K Readiness of the Telephone Industry)

YEAR 2000

International Status by Region

AT&T

*Perceptions of risk as of 31 December, 1998**



* Source: NRIC Focus Group 1, Subcommittee 1 (Y2K Readiness of the Telephone Industry)

International Status (by Usage)

*Perceptions of risk as of 31 December, 1998**

Level of Risk	Major Interest (>200M minutes/year)		Significant Interest (100M - 200M minutes/year)	
Low	Dominican Rep. (508) Taiwan (380) France (544) Switzerland (213)	Hong Kong (418) Netherlands (246) Australia (351) UK (1,716)	Chile (111) Sweden (144) Belgium (139) Singapore (151)	Peru (146) Spain (177) Ireland (152)
Medium	India (337) Brazil (385) South Korea (460) Israel (285)	Germany (953) Japan (899) Italy (383)	Argentina (189) Russia (105) Thailand (119)	Pakistan (116) South Africa (101) Poland (165)
High	Colombia (316) Jamaica (231) China (283) Philippines (338)		El Salvador (144) Guatemala (129) Ecuador (146) Saudi Arabia (112) Trinidad (101)	Tobago (101) Greece (117) Venezuela (177) Bahamas (102)

* Source: NRIC Focus Group 1, Subcommittee 1 (Y2K Readiness of the Telephone Industry)

NRIC Recommendations

- ❑ U.S. Government should engage in direct inquiry on Y2K status to countries determined essential to U.S. telecommunication traffic patterns
  - ◆ Work with the ITU, U.S. State Department, and others to accurately assess the true risk to the U.S.
- ❑ A more proactive role should be undertaken by the FCC (working the appropriate government offices) to support those countries requesting assistance from the ITU and World Bank and/or that have high telecommunications traffic with the U.S.
- ❑ For countries whose Year 2000 readiness may be an issue to U.S. companies, we recommend that the FCC assign an International Contingency Planning Coordinator to support interested U.S. companies in their contingency planning around regions or specific countries that are perceived to be high Y2K risk

* Source: NRIC Focus Group 1, Subcommittee 1 (Y2K Readiness of the Telephone Industry)

Network Interoperability Testing

Goal

- Ensure network elements work across network boundaries
- Demonstrate internetworking capability to customers and stakeholders
- Assess readiness of other participants

Focus

- Signaling interoperability
- Network call completion
- Voice / data / private line services

Approach

- Use industry-wide test environments

Network Interoperability Testing

Domestic

- ☐ Network Reliability and Interoperability Council (NRIC)
  - Assessment of readiness
  - Testing / contingency planning
  - Information sharing
- ☐ Alliance for Telecommunications Industry Solutions (ATIS)
  - Testing scenarios defined by Network Testing Committee (NTC)
- ☐ Telecommunications Forum
  - Additional intranetwork component testing

International

- ☐ Branded networks
  - Working with Canada and UK
- ☐ Bilateral testing
  - International Telecommunications Union (ITU)
    - ➢ Call completion/charging
    - ➢ CCS7 Signaling
    - ➢ www.itu.int/y2k
  - WorldPartners and Pacific Partners members
  - BT Concert
  - Correspondents

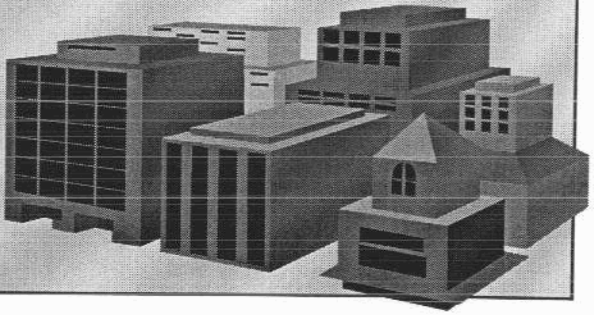
AT&T Network Testing Labs

VOICE

- **Switching (4ESS, 5ESS), Signaling(2STP), Database (2NCP), Adjuncts:**
  - Chicago, Norway & Warrenville, IL
  - Freehold, NJ
  - Columbus, OH
- **Transport**
  - Holmdel, NJ

DATA

- **Transport**
  - Piscataway, NJ
  - Holmdel, NJ
  - Middletown, NJ
  - Lincroft, NJ



Network Interoperability Test Plans

Proposed testing partner		Ameritech	US West	Bell South	Bell Atlantic	GTE	McLeod	AT&T Canada	Canadian Forum	British Telecom	TELSTRA (Australia)	Telmex (Mexico)	AT&T UK	Alestra (Mexico)	TELIA (Sweden)	KPN (Netherlands)	Hong Kong	South Africa Telekom	TELENOR (Norway)	Sing Tel (Singapore)	SwissCom	CTC-Mundo (Chile)	CANTV (Venezuela)	KDD (Japan)	Stentor (Canada)	Telintar (Argentina)	Customer Segments
Key vendor components to be tested		various							multiple	Ericsson	Alcatel	Lucent	Lucent	Lucent	Ericsson	multiple	Ericsson	Siemens	Alcatel	TBD	Siemens	TBD	Ericsson	TBD	multiple	Siemens	various
Voice	Signaling	C	C			C	u																		C		
	Domestic 1+			C			u	C	C																		u
	Domestic 800			C			u	C	C																		u
	SDN			C			u																				u
	0+ (card, collect, etc.)			C				C	C			u															
	Directory Assistance																										
	Int'l Direct Distance Dial								C	u	u	u	C	C	a		p	s	a	a	s	u	a	u		u	u
Private Line	T1.5			s	u						u	a				s				a						u	u
	E1										u	a				s				u						u	
	T45															s											
Data	AT&T Frame Relay										u									u							u
	ATM										a																
IP	Dialed / Direct																										u

Completed	In progress	Scheduled	Agreement in place	Under discussion

YEAR 2000

End-to-End Call Testing

AT&T

- Across AT&T networks and selected domestic/international access and egress provider networks
  - Services that cover 80% of average daily call mix
  - Countries/PTTs that cover major network switch vendors
- Customer testing
  - Lab-to-lab testing with selected customer groups (e.g., banks, power companies, transportation, health care, law enforcement, government and public safety organizations)
- Engage industry groups
  - Basic call types
  - Sample of access configurations and geographic dispersions
  - Encourage observation of tests
- "Live" network call testing
  - *Aspen* tool

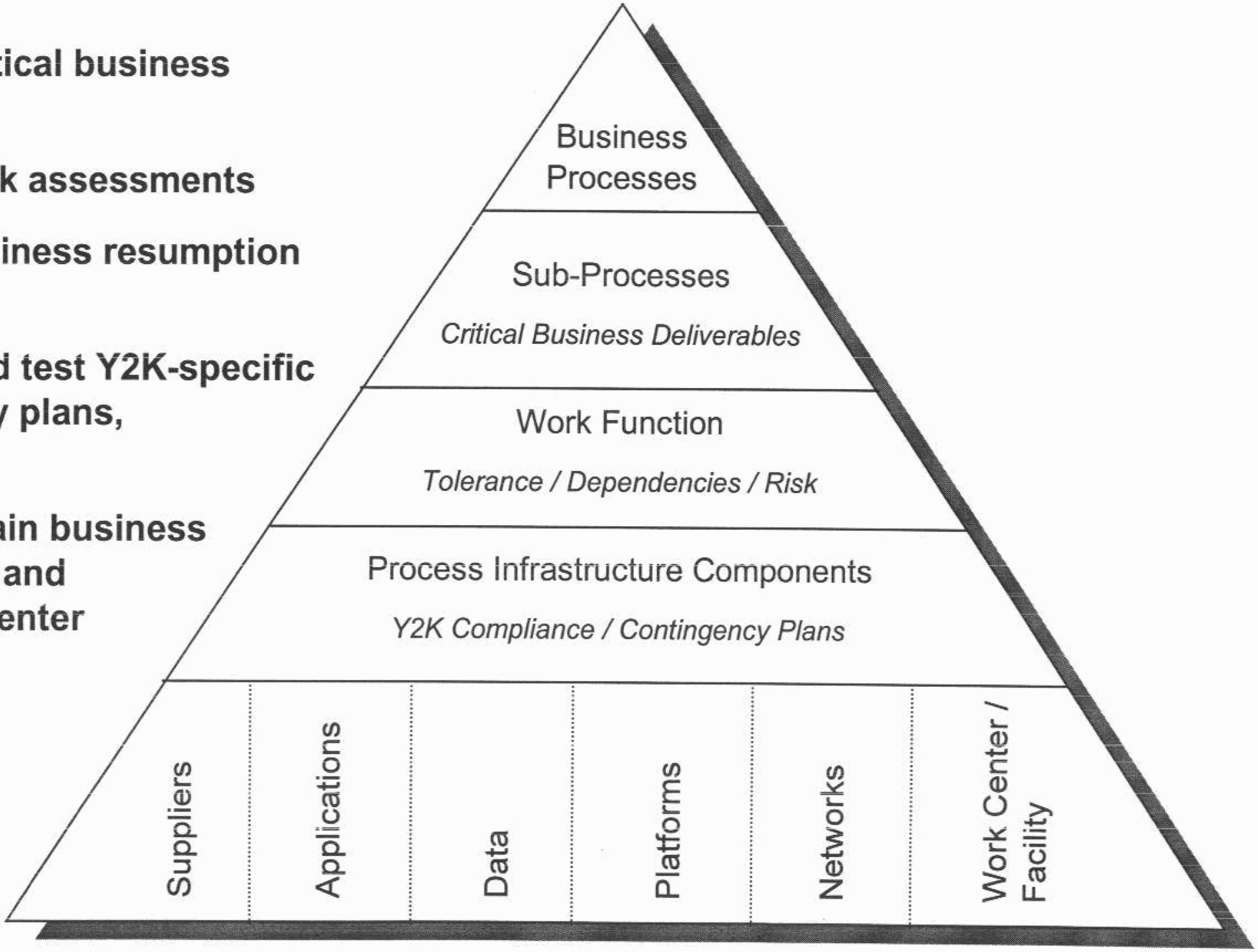
Customer Segments

Financial	☐ MBNA-led consortium (MBNA, Visa, MasterCard, Bank of America/Nations Bank, First Data Corp., Wells Fargo, JP Morgan, AMEX)
Insurance	☐ Travelers ☐ AAA
Transportation	☐ Air Transport Association (ATA) ☐ Aeronautical Radio, Inc. (ARINC)
Manufacturing	☐ National Association of Manufacturers
Retail	☐ National Retail Federation (NRF) ☐ LL Bean
Power Utilities	☐ North American Electric Reliability Council (NERC) ☐ Public Service Electric & Gas ☐ New York Power Pool / New York Power Authority ☐ PJM ☐ Central Hudson Electric & Gas ☐ Bell Atlantic
Health Care	☐ PCS Health Systems ☐ Kaiser Permanente
Federal Government	☐ National Communications System
Law Enforcement	☐ TBD
Entertainment	☐ Holland America Cruise Line

- ☐ **Industry segment / customer testing negotiations in progress**
- ☐ **Mix of test modes**
  - **Lab-to-lab**
  - **Observer**
- ☐ **Key services to be tested:**
  - **Megacom 800**
  - **1+ voice**
  - **SDN**
  - **ISDN**
  - **Frame relay**
  - **T1.5**
  - **Private line**
  - **Network management tools**
  - **Government Emergency Telephone Service (GETS)**

Contingency Planning: Approach

- Validate critical business priorities
- Conduct risk assessments
- Identify business resumption issues
- Develop and test Y2K-specific contingency plans, as needed
- Staff and train business resumption and command center teams



Business Processes

Sub-Processes

Critical Business Deliverables

Work Function

Tolerance / Dependencies / Risk

Process Infrastructure Components

Y2K Compliance / Contingency Plans

Contingency Planning

- ☐ **Identified 85 business processes / functions**
- ☐ **Applied "triage"**
  - **37 *critical* processes**
  - **33 *important* processes**
  - **15 *support* processes**
- **Working with critical process teams**

	1Q 1999	2Q 1999	3Q 1999	4Q 1999
Critical processes				
Plans completed	100%			
Plans certified	45%	100%		
Important processes				
Plans completed	40%	75%	100%	
Plans certified	25%	60%	100%	
Support processes				
Plans completed	10%	40%	80%	100%
Plans certified			60%	100%

YEAR 2000

Contingency Plans : Examples

Communications Processes

- Intra-company, customers, industry partners
- Multiple paths and technologies
- Connectivity: centers and field
- Formalized procedures and contacts
- "Follow the Sun"

Network Management

- State of alert: monitor and act
- Network Control Center backups
- International country reroutes
- Capacity & controls: overload, congestion, corruption
- Network capacity expansion

Personnel Availability

- Year-end vacation advisory
- Pre-positioning of AT&T personnel
- Agreements with vendors / contractors
- Business resumption teams

Infrastructure Dependencies

- Proactive staging for:
  - Power / fuel / water
  - Heating/ air conditioning/ ventilation
  - Alternate power supplies
  - Uniterruptible power supplies

AT&T Actions

- Continue with interoperability testing to determine areas of concern
- Share Y2K process, procedures, test plans / results and contingency plans
- Use diverse traffic routing plans to circumvent trouble spots
- Deploy VSAT (satellite) technology to bypass troubled wireline access
- Engineer additional network capacity to absorb anticipated volume increases due to competitors' problems
- Partner with customers to establish AT&T-based alternate access arrangements and other contingency plans

YEAR 2000

AT&T

Communications Strategies

External Communications

- Reassure customers that AT&T is on target to be Y2K-compliant
- Deliver consistent message to external communities (customers, financial analysts, media)

- Y2K Customer Support team as single point-of-contact for information
- Internet Web site: http://www.att.com/year2000
- Customer Support Hotline: 877-Y2K4ATT
- Extensive customer interactions
- Active participation in government forums

Internal Communications

- Deliver consistent message
- Increase AT&T associate awareness of Y2K issues and project framework
- Engage participation and support
- Instill sense of urgency

- Y2K Communications Project Office as single point-of-contact for information
- Intranet Web sites refreshed monthly
- Sales support tools
  - Presentation package
  - Customer discussion points
  - Customer information package
- Y2K conferences/forums
- Targeted communications via newsletters, TV monitor messages, etc.

AT&T

AT&T YEAR 2000

It's all within your reach.

Fri., Dec. 11, 1998

Year 2000 Readiness Disclosure.

Overview

The challenge and AT&T's solution

NEWS BYTES

Site updated on Dec. 9, 1998

AT&T Tells Congress,
"We won't let you down."
Company spokesperson addresses Subcommittee on Oversight of the Committee on Ways and Means, U.S. House of Representatives

[MORE]

AT&T execs leading
Y2K government council
C. Michael Armstrong, Chairman and CEO of AT&T, is chairing the Network Reliability and Interoperability Council (NRIC) and John Pasqua, AT&T Year 2000 Program Vice President, is heading a Y2K NRIC steering committee.

[LINK TO NRIC]

Program Completion

1999 targeted for final assurance of Y2K-compliance ...

- ☐ Independent verification of critical applications
- ☐ Deployment of all applications in Y2K-certified production environments
- ☐ Deployment of all Y2K-certified network elements
- ☐ All AT&T sites (non-IT infrastructure) certified Y2K-compliant
- ☐ End-to-end testing completed for applications, environments, systems, …
- ☐ Network interoperability testing
- ☐ Y2K-specific contingency plans certified and tested

YEAR 2000

AT&T

Summary

- ☐ Made 1998 commitments!
  - ◆ All plans in place to meet 1999 objectives
- ☐ Centralized program management / decentralized implementation
- ☐ Board of Directors / CEO engaged
- ☐ Triaging -- customer-driven priorities
- ☐ Funding/objectives assurance
- ☐ Interoperability testing / contingency plans being defined for early 1999

The AT&T Y2K program will be successful!