

ATIS

National Diversity Assurance Initiative

Overview

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About ATIS

The Alliance for Telecommunications Industry Solutions

- Technical planning and standards development organization of communications companies.
- Committed to rapidly developing and promoting technical and operations standards for the communications and related information technologies industry worldwide.
- ATIS' members and committee participants represent a wide cross section of the global communications industry.
- ATIS Board of Directors comprised of the leading technology officers and senior executives who determine the industry's technical and operational priorities.
- ATIS CIO Council provided leadership and direction to the NDAI Initiative.



9/11 - NDAI Beginnings

- U.S. financial institutions faced challenges in restoring telecommunications services as a result of the 9/11 terrorist attacks in NYC.
- Telecommunications circuit route diversity has been a long standing industry concern and the 9/11 attacks validated this concern.
 - Firms who thought they had achieved redundancy learned that their services were still disrupted.
 - Firms who mapped their services learned that services had been re-routed over time.

US Federal Reserve Response

- The Federal Reserve Board (FRB) promoted efforts to improve financial services resiliency:
 - Developed white papers and best practices with other government agencies to address issues regarding telecommunications continuity and the resilience of the U.S. Financial System.
 - In November 2002, the Federal Reserve requested the NSTAC to sponsor a Financial Services Task Force (FSTF) to evaluate telecommunications resiliency for NS/EP circuits.

US Telecom Carriers Response

- Telecommunications carriers took steps to address customer concerns:
 - Individual carriers conducted regional pilots examining circuit diversity and determined that evaluation from a single carrier was not an accurate reflection.
 - A working council of communications CIOs was established in mid-2003 at ATIS to formulate proactive positions as an industry interface with government and cross-industry interests on identified security matters.

NSTAC Action

- NSTAC Financial Services Task Force (FSTF) comprised of Carriers and Financial Services.
- NSTAC FSTF reported to the President** to support ATIS' National Diversity Assurance Initiative and develop processes to:
 - Examine diversity assurance capabilities, requirements, and best practices for critical NS/EP customers.
 - Promote research and development to increase resiliency, circuit diversity, and alternative transport mechanisms.

* Financial Services Task Force Report issued by NSTAC in April 2004

[http://www.ncs.gov/nstac/reports/2004/Financial%20Service%20Task%20Force%20Report%20\(April%202004\).pdf](http://www.ncs.gov/nstac/reports/2004/Financial%20Service%20Task%20Force%20Report%20(April%202004).pdf)



The NDAI Initiative Begins

- Work began on June 3, 2004, with the ATIS CIO Council and the Federal Reserve on an in-depth, multi-carrier, assessment of diversity assurance.
- Objective & Scope:
 - Identify an effective process for providing physical diversity assurance for critical financial industry NS/EP circuits.
 - Scope: Explore and research the possibility of diversity assurance for critical NS/EP circuits across multiple service providers.
- Working Team: NDAI Team consisted of representatives from the Federal Reserve, AT&T, BellSouth, MCI, Qwest, SBC, Sprint, Verizon, and ATIS.



NDAI's Goals

- Focus on understanding and defining the capabilities of diversity assessment and assurance for the financial services sector.
- Understand the framework and processes that would be required to develop a diversity assessment and assurance model across multiple service providers.
- Identify and develop recommended requirements for providing diversity assessment and assurance.
- Assess framework and lessons learned.

The NDAI Phases

Planning

Define Scope, NDA, and Project Plan

Assessment

Identify circuit information & develop composite street level maps for end-to-end circuit

Baseline

Evaluation of circuits deemed not diverse from Assessment to determine if alternatives exist to diversify the circuits

Assurance

Defined cycle to report & analyze circuit changes over time to assure that diversity is maintained

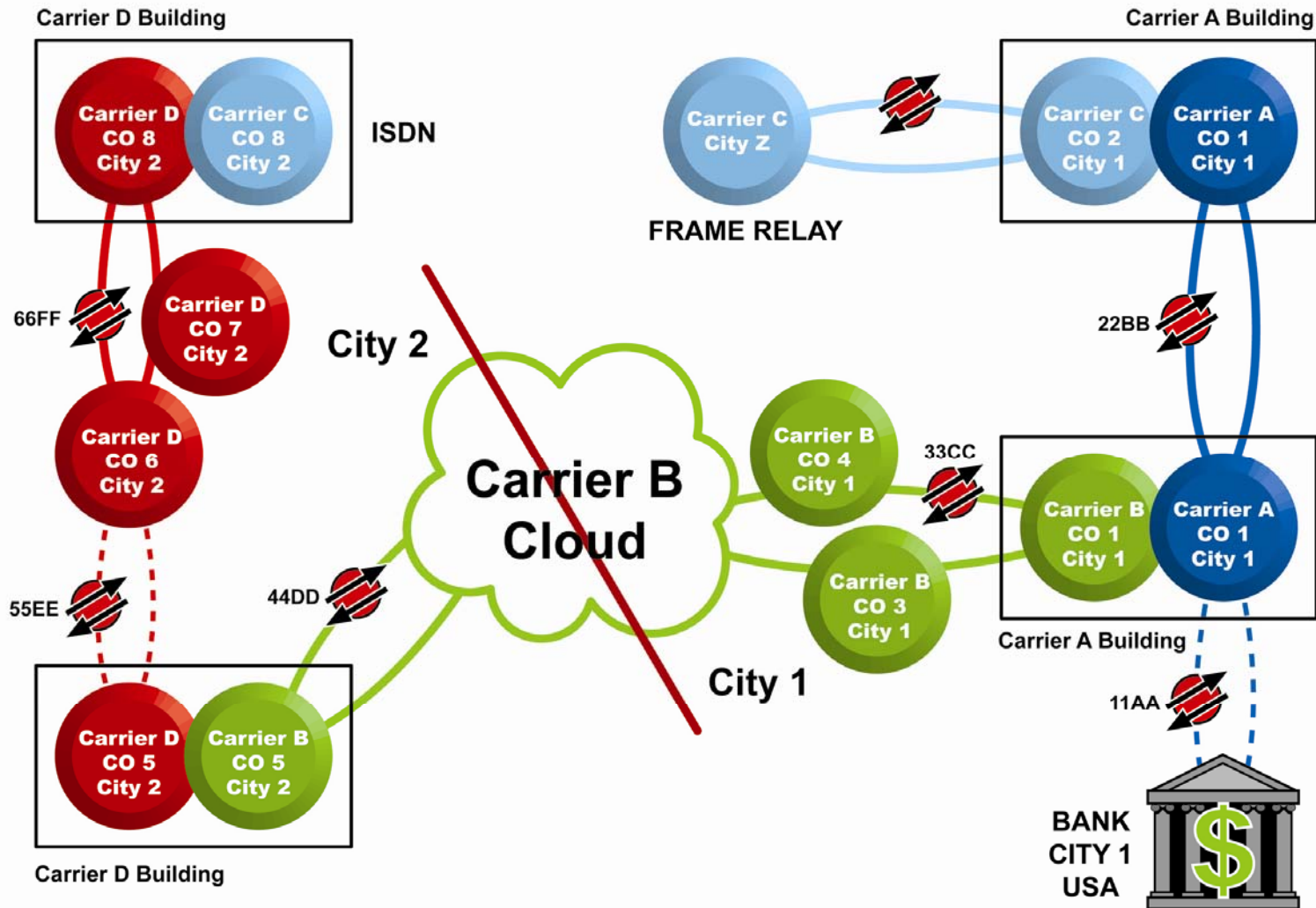
Deliverables

Review Initiative activities, assess scalability & feasibility of wider deployment, and recommendations for next steps.

Initiative activities were projected to cover 12 – 18 Months

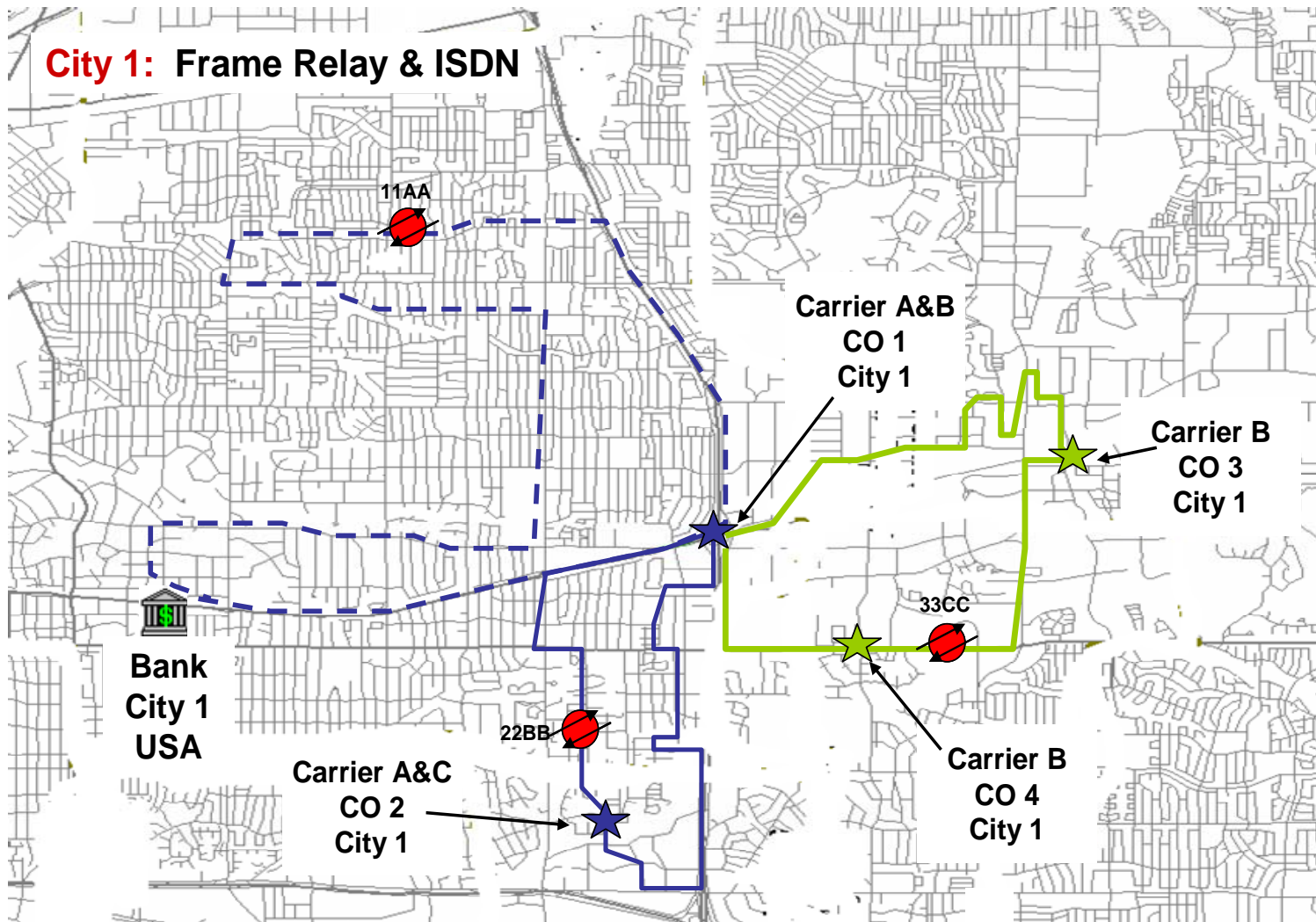
Assessment Phase

- Carriers and ATIS developed logical and street level detail maps detailing circuit layouts for ten pairs of FedWire circuits.
- Common points of failure & potential diversity violations were reviewed and explained.
- Four of ten determined to be diverse; the remaining six required modifications to meet diversity needs.
- Detailed Lessons Learned developed



The preceding circuit diagrams are sample maps and do not represent any actual circuit information.

City 1: Frame Relay & ISDN



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NDAI Lessons Learned

- Regulated & competitive nature of the telecom industry created challenges:
 - Contractual framework is necessary for all parties to work together.
 - Security consideration to protect circuit information led to increased complexity.
- Complexity of multi-carrier environment was greater than anticipated:
 - Local loop was expected to be one carrier, in some cases there were as many as four carriers.
 - Terminology and data among the carriers was not always common.

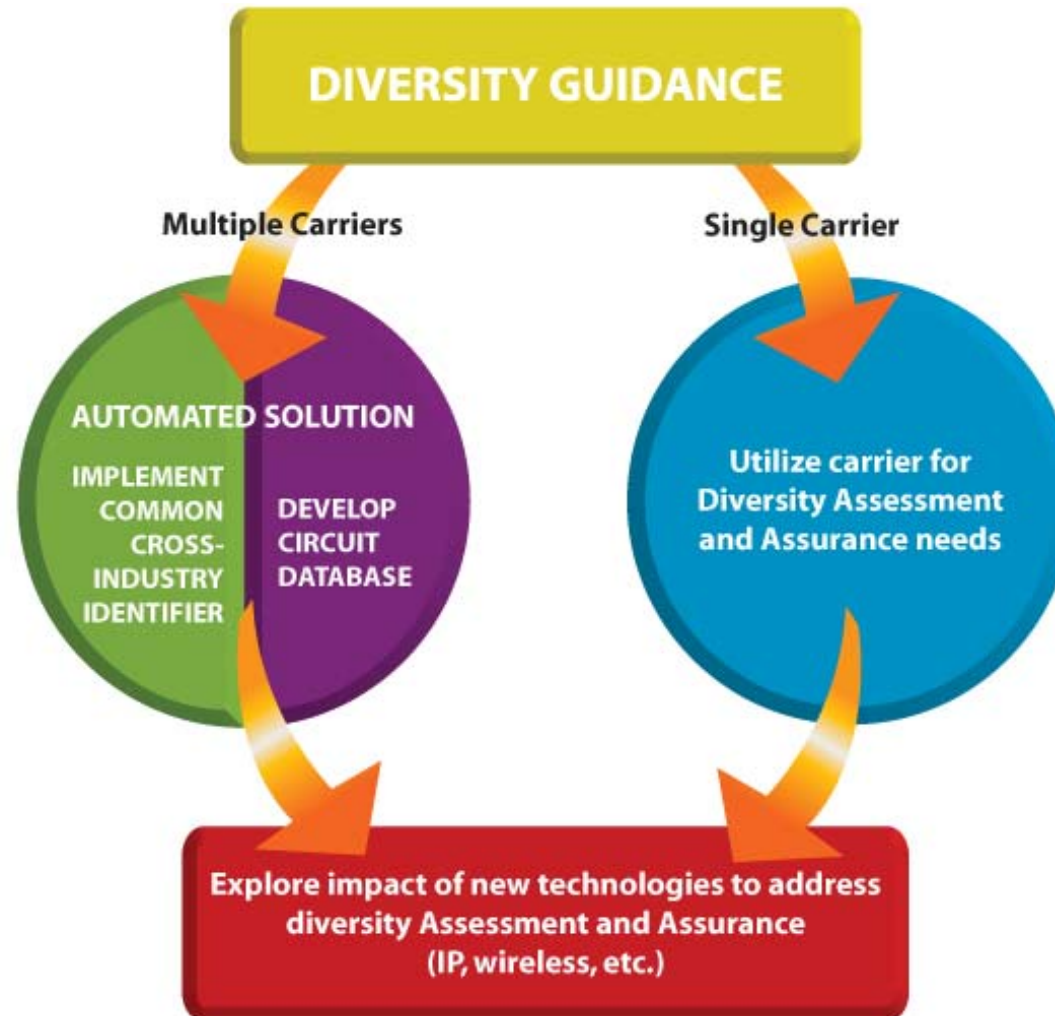
NDAI Lessons Learned

- Manual assessment is very complex and expensive:
 - Multiple circuits comprised of the prime carrier, a sub-carrier, and sub-sub-carriers (10 circuit pairs totaled 68 circuit segments).
 - Lack of common cross-industry circuit identifier, complexity of circuits and systems & disparate mapping processes drove costs for assessment.
- Diversity Assessment not scalable in a manual mode:
 - Very labor intensive and required multiple participants from each Carrier.
 - Consolidated map preparation was a manually labor intensive effort.

NDAI Conclusions

- Manual diversity assessment is too labor and cost intensive to be commercially viable.
- An automated solution to track circuits across multi-carriers would streamline the process.
- Marketplace is insufficient to recover costs from users of an automated service.
- There is a potential need for automated diversity assurance in other critical sectors.

NDAI Recommendations







NDAI Recommendations

- Other industries with critical missions and circuits should evaluate current risks and take steps to mitigate those risks.
- Small-scale scoping effort to determine: objectives, requirements, and cost required to provide an end-to-end diversity assurance solution.

Planning is underway for scoping effort!

NDAI Project Results

NDAI Goals	Status
Focus on understanding and defining the capabilities of diversity assessment and assurance for the financial services sector	
Understand the framework and processes that would be required to develop a diversity assessment and assurance model across multiple service providers	
Identify and develop recommended requirements for providing diversity assessment and assurance	
Assess framework and lessons learned	

Final report published February 2006: <http://www.atis.org/ndai/>