

Idea Paper for  
DISS 840 Term Report Titled  
The Automotive Network Exchange

by

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## **Rationale for Selecting**

Electronic commerce (EC) is projected to grow at staggering rates in the near future. A large part of this growth will occur in the business-to-business segment of EC. In recognition of this, the automotive industry, led by the Automotive Industry Action Group (AIAG), created the [Automotive Network Exchange \(ANX\)](#) in 1995. As proposed, the ANX will be the world's largest virtual private network (VPN) or "extranet" ultimately connecting more than 10,000 automotive businesses.

## **Brief Introduction**

The ANX is an IP-based virtual private network for managing the automotive industry supply chain. GM, Ford, Chrysler, and their suppliers and dealers support it. The ANX project began in December 1995 and was the result of the AIAG's endorsement of TCP/IP as the data communications standard for the auto industry. Initially, three implementation options were considered for the ANX. These included the public Internet, private network expansion, and virtual private network services. A fourth option - the ANX model - was finally adopted. The ANX model consists of:

- Multiple service providers certified by an ANX Overseer company
- All certified providers required to interconnect with each other
- Pricing to be comparable to existing VPN services

The goal of the ANX project is to save \$1 billion annually or \$70 per car. This will be accomplished by optimizing information flow within the supply chain by reducing information lead-time. Direct savings will be derived from the following:

- Consolidation of multiple communication links
- Elimination of transaction-based charges
- Elimination of carrier management cost of multiple links
- Reduced maintenance costs and staff expenses
- Reduced hardware and software costs

Indirect savings include the ability to:

- Carry out business strategy more effectively
- Service new customers more quickly
- Support strategic partnerships more readily

In short, the ANX will replace the intertwined web of connections that currently connect automotive suppliers and manufacturers with a single, secure IP-based network.

The paper will begin with an introduction to business-to-business electronic commerce, extranets, the ANX, and the AIAG. This will be followed by an in depth look into those topics. The following is a preliminary outline of the paper:

1. Introduction
  - a. EC, Extranets, ANX, & AIAG
2. Growth of Business-to-Business Electronic Commerce
3. Extranets and Virtual Private Networks
  - a. Current VPN technology
4. ANX
  - a. ANX Project Background
  - b. Business Case Justification
  - c. AIAG's Manufacturing Assembly Pilot
  - d. Business Uses
    - i. EDI, CAD File Transfer, E-mail, Groupware
  - e. Quality of Service Requirements
    - i. Performance, Reliability, Security
  - f. VPN Companies
  - g. Certified Service Providers
  - h. IP Security Vendors
    - i. Security Technology
  - i. Expansion into other Industries (i.e. Health Providers)
5. Conclusion

### **Role of the Automotive Network Exchange**

The Automotive Network Exchange will go live in 1999. As the world's largest extranet, the ANX project will expand electronic commerce in both the automobile industry and other worldwide markets. Procedures, guidelines, models, and technologies developed during its implementation will provide a basis for future growth in electronic commerce.

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