

Background

The Food and Nutrition Service (FNS) has, over the past decade, sponsored a number of demonstrations that have firmly established the technical feasibility of delivering food stamp benefits electronically using both on-line and off-line technologies. In on-line electronic benefits (EBT) systems, clients use magnetic stripe cards at authorized retailers to access their food stamp accounts at a central computer. In contrast, off-line systems maintain the primary account on an integrated circuit (IC) or smart card. For on-line systems, point-of-sale (POS) terminals are used to establish a telecommunications link with the central computer and transmit account transactions. For off-line systems, each transaction is authorized and the card balance adjusted without communicating with a central computer.

Although the current efforts of FNS and the Federal EBT Task Force envision rapid deployment of on-line EBT systems, the potential for future expansion of smart card usage in government and private sectors warrants continued consideration of both technologies. This report considers technical and practical feasibility of hybrid EBT systems which combine elements of both on-line and off-line technologies. Information was collected through in-depth interviews with industry experts and comprehensive review of commercial data sources and prior EBT evaluation reports.

Practical Considerations

The report finds that most terminals deployed in the U.S. support only one card type with the large majority supporting only magnetic stripe cards. However, dual capacity terminals are under development in U.S. and existing terminals can be retrofitted to read smart cards.

Retrofitting is more cost effective for ATMs than for POS terminals. No processors support parallel on-line and off-line processing, although two possible configurations are identified that allow third party, on-line processors to accept off-line transactions. Despite the lack of existing infrastructure, industry experts indicated optimism for rapid growth of smartcard applications in the time frame of 1997-2000 driven by prepaid debit card, security, and government applications such as EBT or health cards.

Costs and Feasibility

The discussion of feasibility of hybrid systems is organized around four hypothetical hybrid systems. Although drawbacks were identified for all cases, experts agreed that the more sensible scenarios were: 1) a system that allows access to one or more programs via on-line technologies and the others via off-line within the same geographic area and 2) an on-line processing system with off-line security features. In all four cases, hybrid system costs were estimated costs to exceed those of a single, non-hybrid on-line or off-line system. System design and development costs ranged from \$1.6 to \$2.8 million and operating costs from \$4.03 to \$5.56 per casemonth.

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