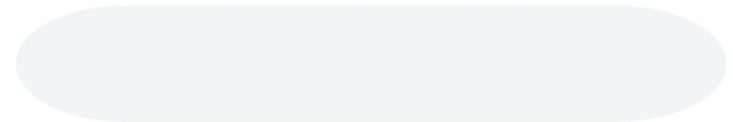


Advances in MULTOS Technology



John Wood, CEO

Smart Cards in Government
Smart Card Alliance

April 20, 2006
Washington, DC



Facts

- > 50 million  cards issued
- 15 Consortium Members
 - Many new partnerships underway
- 3 fully interoperable  implementers
- Significant new investment and strategic partners
- Independence from MasterCard
- Large and growing presence in the U.S. and abroad

Answering Market Needs

- Strong heritage in finance, yet big wins in National ID
- 3 of the 4 largest biometric implementations use MULTOS

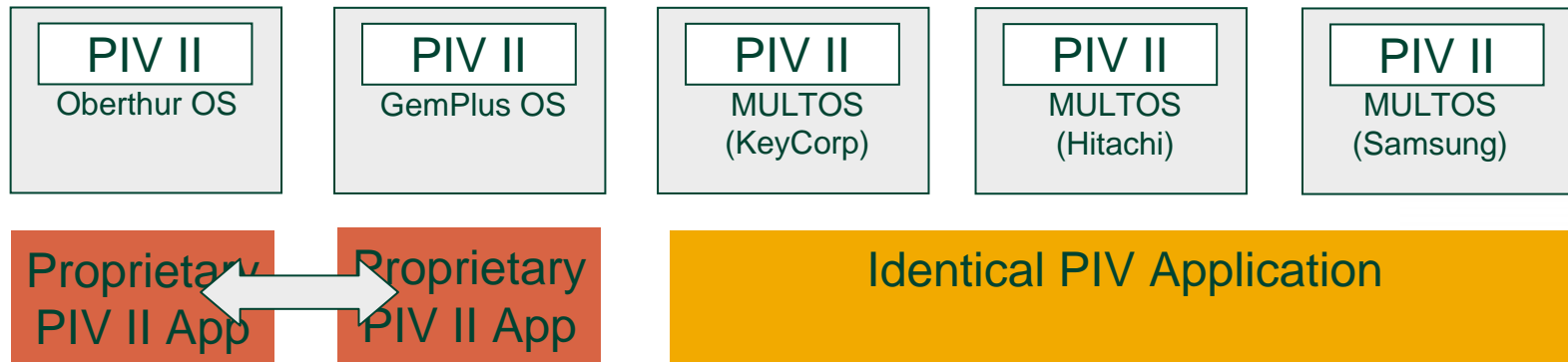
Worldwide Government Criteria

1. Security
2. Key Management control
3. Cost
4. Multi-source
5. Separating device provider from application provider
6. Interoperability
7. Certifications

U.S. Criteria

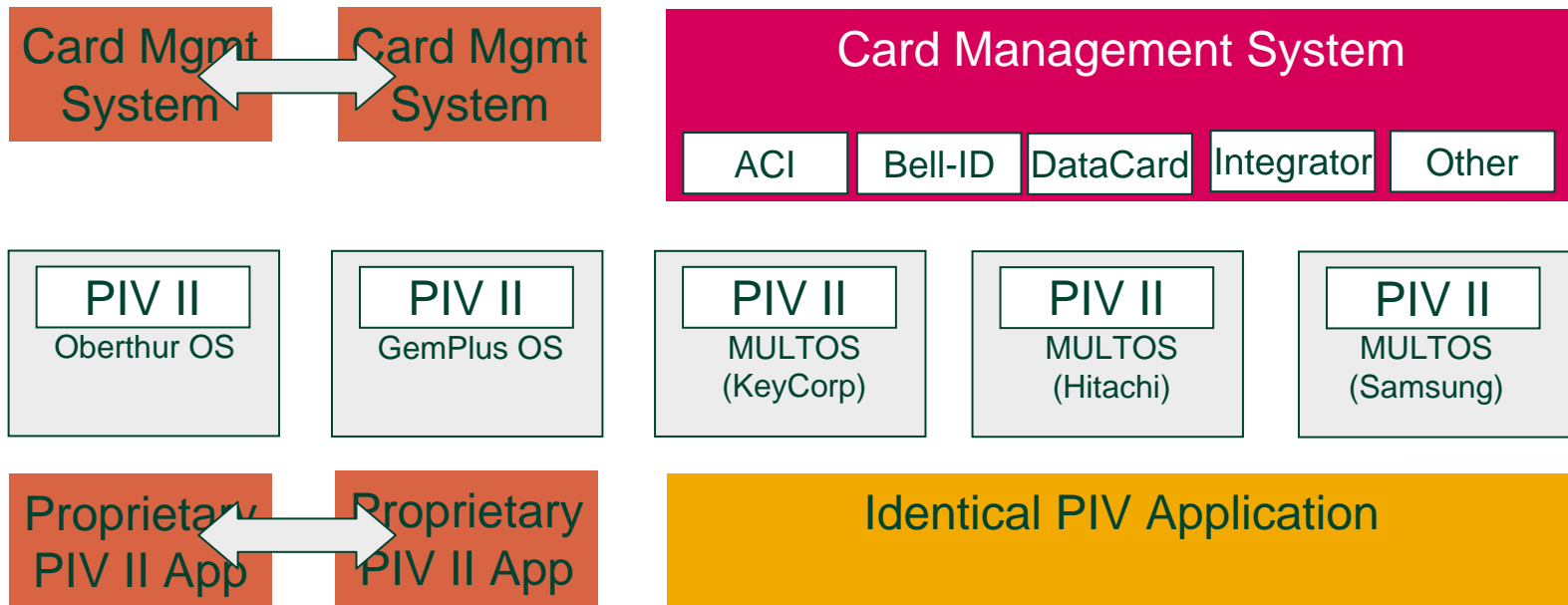
Interoperability Defined

Identical PIV Application on 3 different silicon



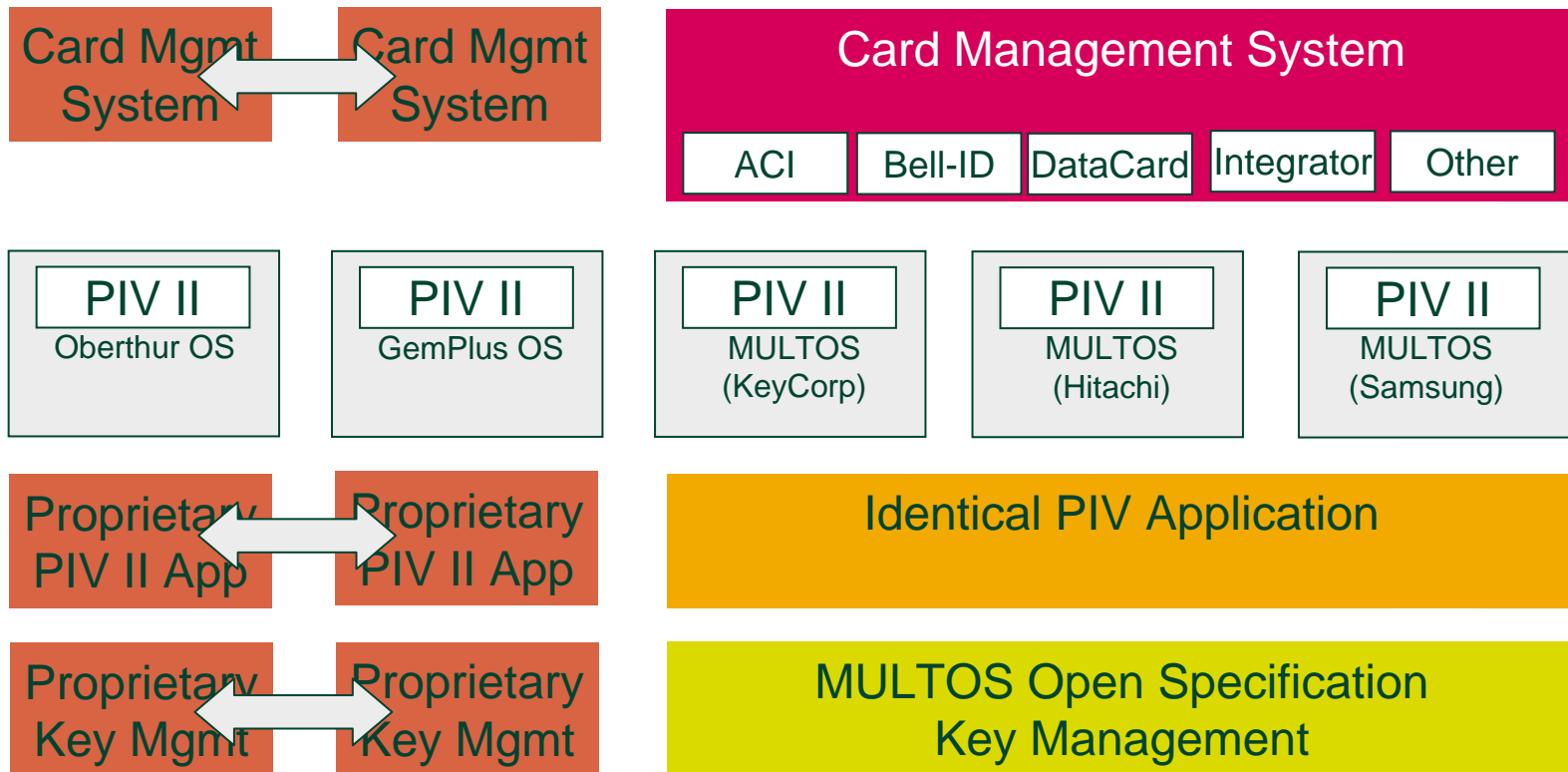
Interoperability Defined

Identical Load Process



Interoperability Defined

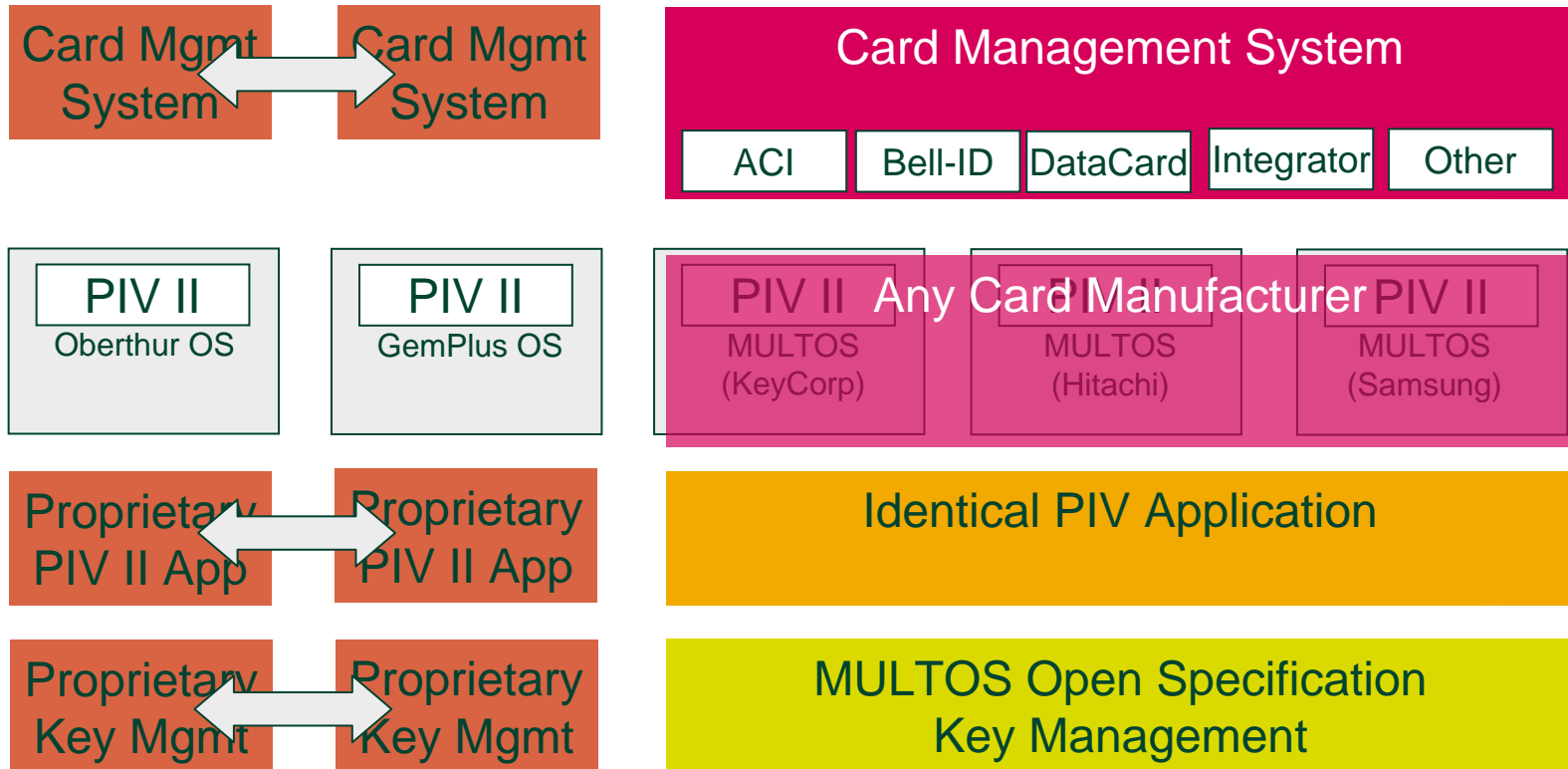
Identical Key Management Process



The only standardized key management process available

Interoperability Defined

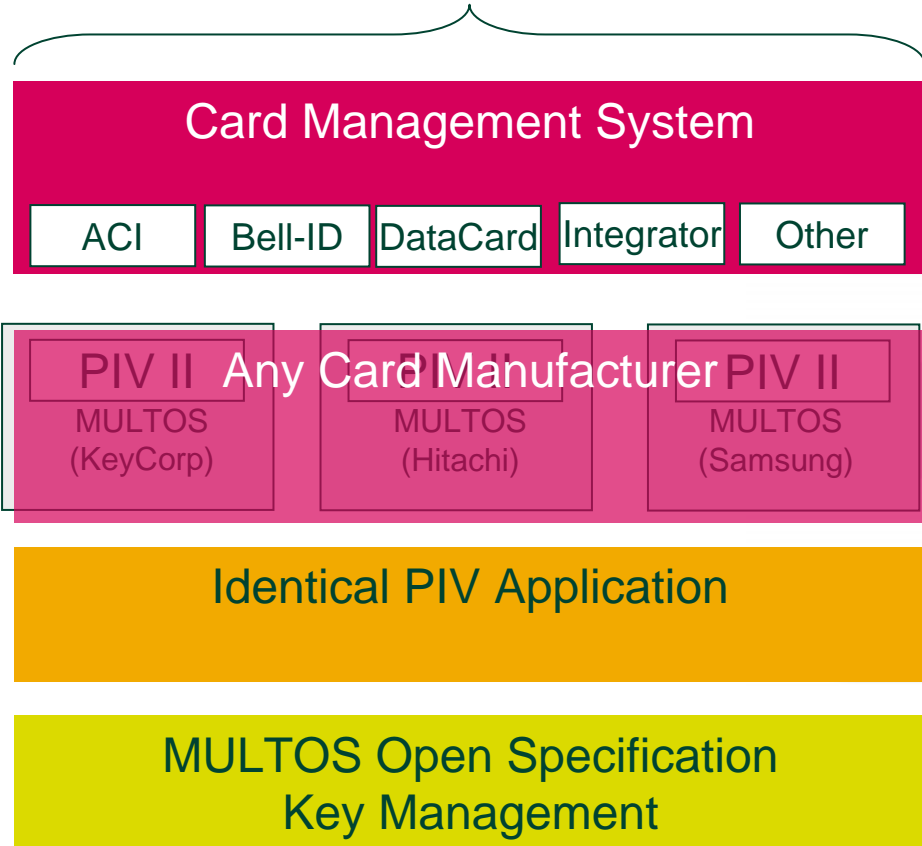
Any Card Manufacturer can provide the cards



Multi-Source Supply Chain

Open, Interoperable

- Multiple Card Mgmt Systems
- Multiple Middleware Providers
- Multiple Card Manufacturers
- Multiple OS Providers
- Multiple Application Providers
- Multiple Key Mgmt Providers



Multi-Source Supply Chain

Open, Interoperable

Multiple Card Mgmt Systems
Multiple Middleware Providers

Multiple Card Manufacturers
Multiple OS Providers

Multiple Application Providers

Multiple Key Mgmt Providers



True Interoperability

Card Management System

ACI

Bell-ID

DataCard

Integrator

Other

PIV II
MULTOS
(KeyCorp)

Any Card Manufacturer
PIV II
MULTOS
(Hitachi)

PIV II
MULTOS
(Samsung)

Identical PIV Application

MULTOS Open Specification
Key Management

Multi-Source Supply Chain

Multiple Card Mgmt Systems
Multiple Middleware Providers

Multiple Card Manufacturers
Multiple OS Providers

Multiple Application Providers

Multiple Key Mgmt Providers



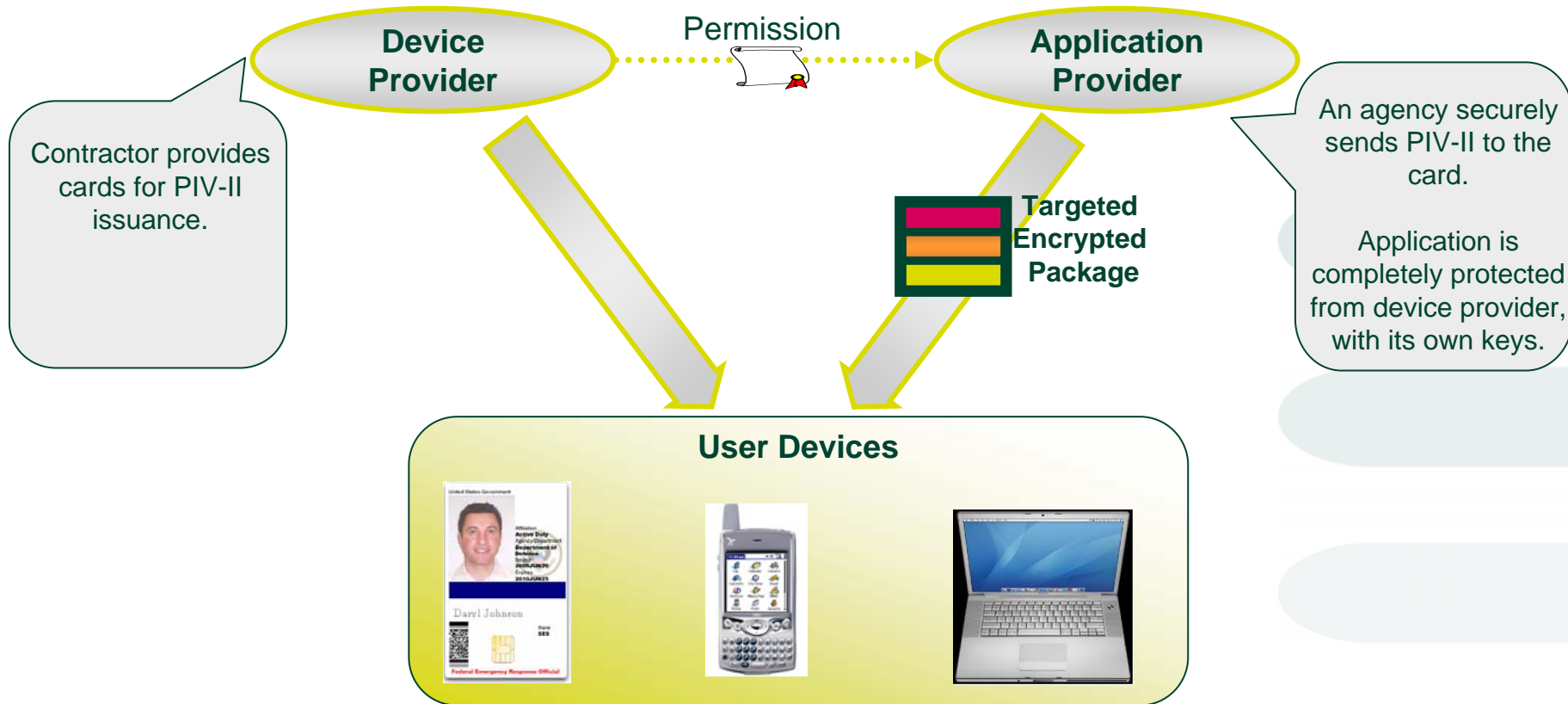
True Interoperability



Decreased Costs for Customers

- Competition
- Supplier risk diminished
- Security is vetted
- Card Volumes Increasing
- Integration is much easier
- Specifications provide foundation

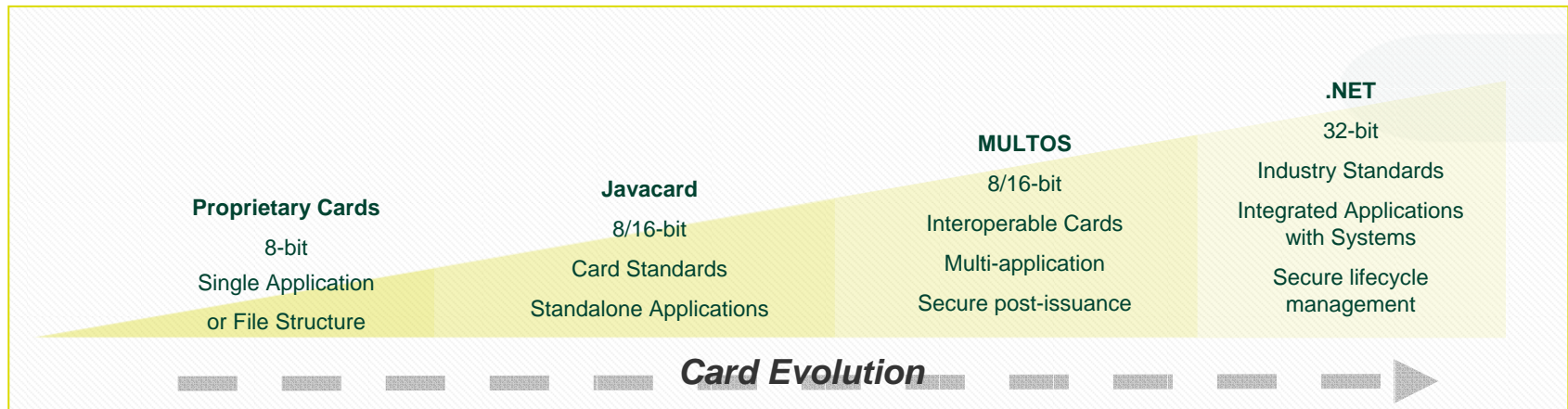
Separating Device Control from Application Control



- Only card capable of completely separating application privacy from the device, enabling different secure issuance models
- Perfect for separating agency applications from contractor applications
- Extremely important in offline situations, such as in emergencies, combat, or poor networks

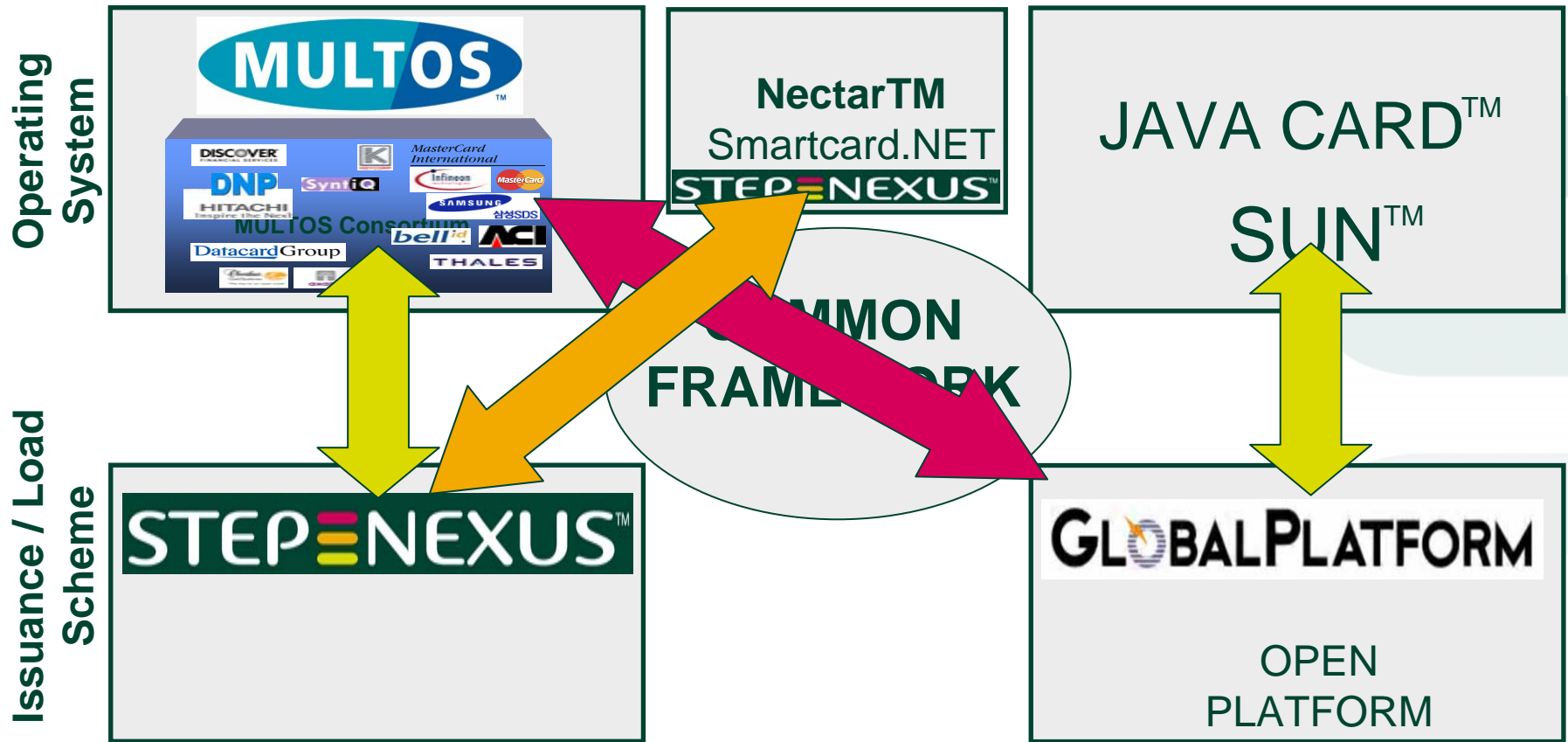
Acquisition of HiveMinded SmartCard.NET

- Integrated roadmap from 8/16 bit MULTOS micro-controllers today, to 32 bit environments of the future
- SmartCard.NET cards seamlessly integrate into the business environment and are fully supported 'out of the box' by Microsoft Windows, including current and future versions
- SmartCard.NET offers multiple interoperating development languages, including C#, Visual Basic, C++, J++ and Python.
- StepNexus will link StepNexus Server Secure Packets content distribution service to SmartCard.NET



Expanding .NET Support and Global Platform Support

2006 – Global Platform 2.2 (draft) – Global Platform Secure Session supported for MULTOS



Smartcard.NET will use StepNexus Secure Packets mechanism

Conclusion

- 32k and 64k cards already available to our technology partners, with fully conformant PIV II application
 - Cards conform to SP 800-73-1
 - Simple deployment choice

The logo for MULTOS is a large, horizontally-oriented oval shape. The left half of the oval is a lighter blue color, and the right half is a darker blue color. The word "MULTOS" is written in large, white, bold, sans-serif capital letters across the center of the oval. The "M", "U", "L", "T", and "O" are on the lighter blue background, while the "S" is on the darker blue background.

MULTOS

TM