# SmartVista
# Modern Payment Solution on NonStop

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# Company Snapshot

- Founded in 1995
- Developer and distributor of SmartVista, comprehensive suite of solutions covering every aspect of electronic payments processing
  - Market tested solution
  - Deployed at 90 clients in 28 countries
  - ISO 9001:2000 certified
- Rapidly growing client base consisting of leading local banks as well as major international financial institutions

# Key benefits

- Developed using Open Source based standards

- Cross platform solution

- High Availability, Scalability and Reliability

- Three tier logical architecture

- Compliance with international standards

# SmartVista functional components

## Authorization
- Authorization
- Switching & Routing
- On-line fees and limits
- ATM Monitoring
- POS Management
- On-line Fraud Prevention
- International Payment Scheme Interfaces
- EMV script distribution

## Management
- Card Management
- Merchant Management
- Clearing & Settlement
- Exceptions Processing
- Fraud Monitoring & Analytics
- General Reporting
- Credit services
- Loyalty programs
- Fees, Rates, MSC and Limits

## Production
- Full functional card personalization solution
- Magnetic stripe and EMV compliant chip cards
- Interaction with various CMS
- Various personalization and cryptographic equipment
- PIN generation and printing

## Internet
- Payment gateway
- 3D secure
- MPI
- ACS

## Builds from individual components to complete integrated solutions
- In-house card processing
- Issuer solution
- Acquirer solution
- Merchant processing
- Personalization center
- TPP/MSP solution
- Switch solution
- Agent organization
- National payment network
- Payment gateway
- Payment services hub
- Billing system

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# Porting Project Goals

- Port SmartVista FrontEnd switching component on HP Integrity NonStop platform
- Keep NonStop version of SmartVista FrontEnd as close as possible to common UNIX version
- Use proprietary NonStop features if required
- Develop source code translation procedures to keep NonStop version up-to-date
- Suggest a NonStop-based hardware environment
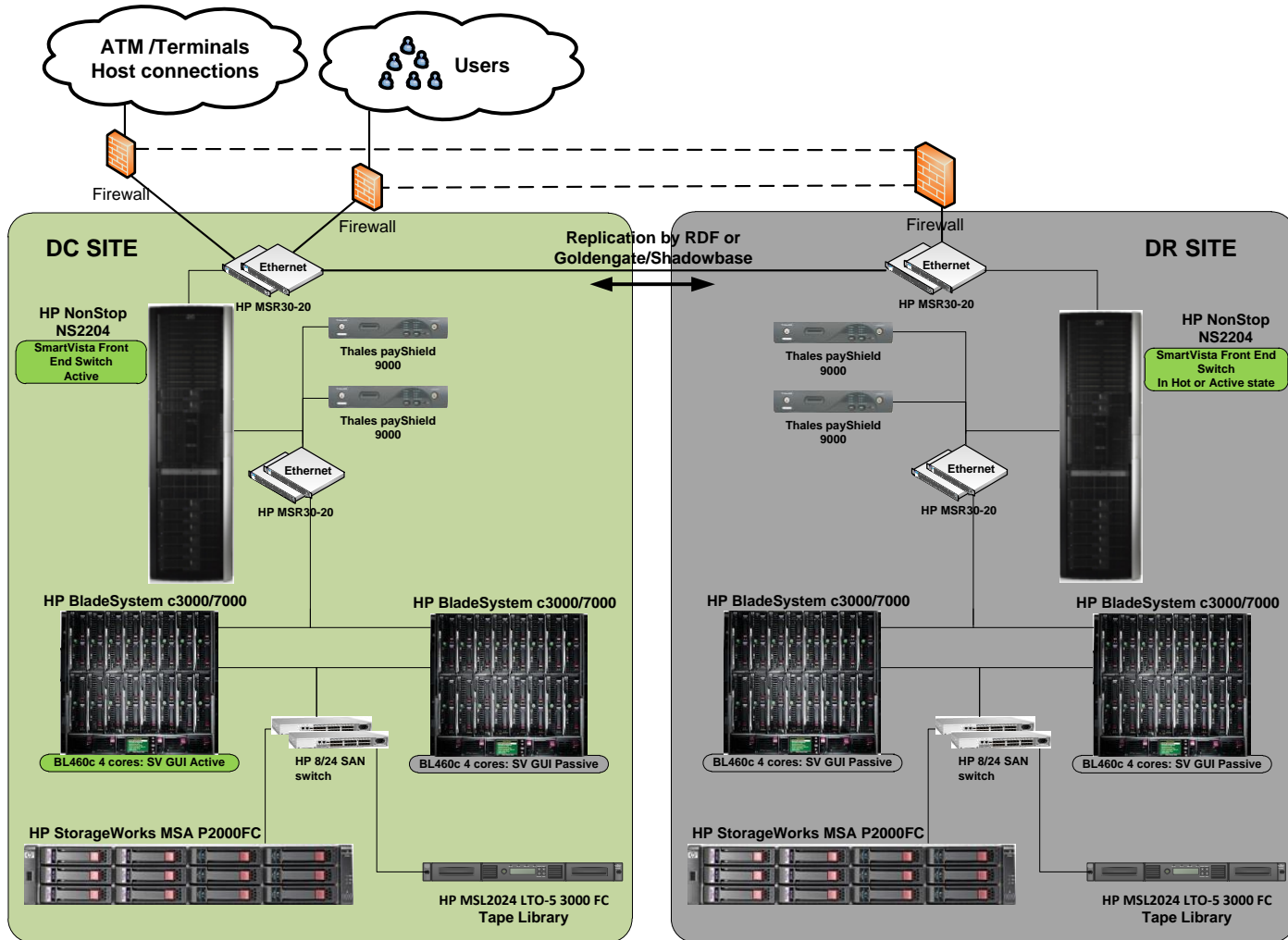
# Porting Target – SmartVista FrontEnd
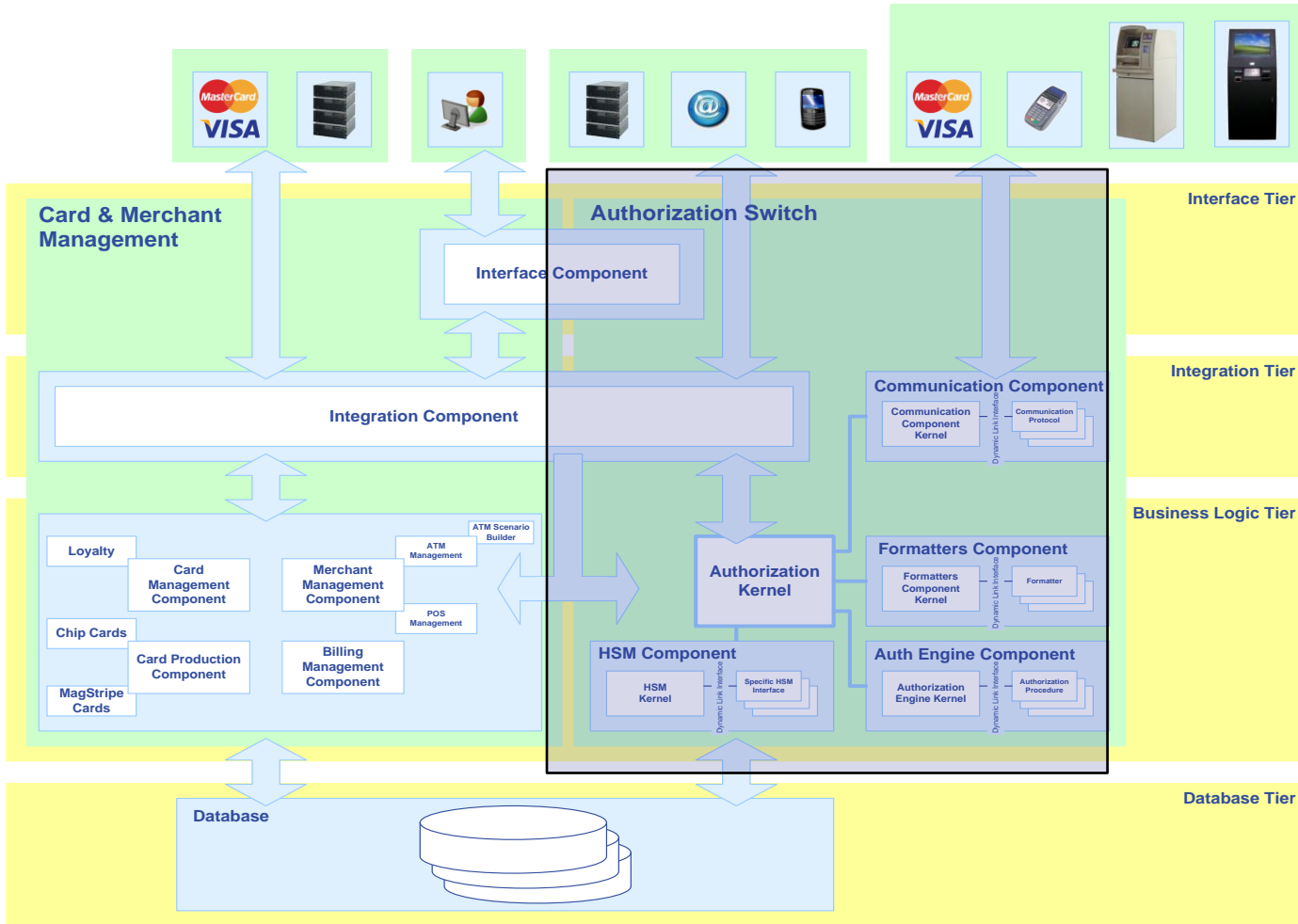
# Prerequisites

- Stateless components
- Multiple instances for every process type (similar to NonStop Server Class concept)
- Single-threaded processes
- Message prioritizing
- GUI is not a critical component

MISSION POSSIBLE

# NonStop Infrastructure Example

# Hardware Infrastructure Features

- Both Active-Passive and Active-Active modes ready

- Less hardware compared to all-UNIX environment

- Uses native RDF feature for replication

- Expand option available for distributed database

- No SAN and hardware mirroring required up to middle-size requirement

- Hardware scalable both vertically and <u>horizontally</u> with no additional options required

# Target Implementation Environments

- Pure Switching installations

- Horizontally scaled environments

- Active-Active installations with non-equal nodes

- Where RPO = 0 is a must

- Retention of the Nonstop platform is of priority

# Project Goals Reached

- SmartVista FrontEnd ported on HP Integrity NonStop platform

- NonStop version of SmartVista FrontEnd inherits all the functionality of UNIX version

- Runs on top of proprietary layers of NonStop

- Automatic procedures available for source code translation from UNIX version

- Suggested NonStop based hardware environment

# Important To Know

- Functionality (including operational) <u>identical</u> to common UNIX-based solution

- OSS used instead of Guardian

- Pathway TS/MP for internal messaging

- Orchestrator pattern for transaction flow control

- Combines specific Nonstop features with Open System approach and vision

- SmartVista BackOffice (non-24x7component) runs on UNIX

# Technical Environment

| Platforms | OS | RDBMS | Other soft |
|---|---|---|---|
| IBM Power Systems (System p, System i) | HP HPUX 11 | Oracle 9i, 10gR2, 11gR1, 11gR2 | C compiler ( GCC, CC ) |
| HP Proliant Systems (ML, DL, BL ... all x86) | IBM AIX 5.3, 6.1 | **SQL/MX** and DB9/10 | Perl |
| HP Integrity rx Systems | RedHat Linux 5 | | Shell |
| SUN SPARC Systems (M, T ... all x86) | SuSe Linux 11 | | Oracle Client |
| Stratus ftServer | OEL Linux 5 | | **TACL and OSS shell** |
| x86_64 systems | Sun Solaris 10 | | |
| VMWare EX | IBM I (i5/OS) | | |
| **HP Integrity Nonstop** | **HP Nonstop OS J06 (OSS)** | | |

SmartVista remains an Open System application on Nonstop

# Benefit from NonStop Advantages and Technologies

- SQL/MX™ as an embedded relational database

- Granular field access and isolation levels in SQL/MX

- IPCLIM™ for network management

- TS/MP™ for messaging

- TMF™ for a business transaction commit cycle

- Expand™ for database clustering

# HP Labs Feedbacks

- "This is one of the easiest UNIX porting cases we've ever participated in"
- "The architecture of the solution meets the requirements of NonStop with only minor changes"
- "You already have fault tolerance and resilience features that don't need to be changed when ported to NonStop"
- "The solution is highly scalable by design"
- "It's exciting to have a modern payment solution on NonStop"

# Why NonStop

- Banking and processors NonStop Install base of over 400 for Tier 1 banks worldwide
- NonStop customers have great confidence in the HW
- HP has done well to enhance with open systems technology and performance
- Customers reluctant to give up NonStop benefits

# Why SmartVista on NonStop

- Easier option to change application only on NonStop

- Proven solution with 99.998 % availability on Unix

- Built with fault tolerant principles

- Over 90 clients

- Large customers

# SmartVista NonStop – Strategic Initiative

- Provide a viable and solid alternative to Legacy Based solutions with an end-to-end value proposition

- NonStop solution for Switching, Authorisation and Fraud Prevention

- Unix solution for back-office, EOD, card management, Reports, Merchant Management, Settlement/Reconciliation, Disputes/Chargeback

- Minimize migration risk

# Thank you!