

WHAT'S NEW WITH CONNECTED PAYMENTS

SOLUTION MANAGEMENT OVERVIEW
CONTINUOUS IMPROVEMENT
RELEASE TIMELINES & ROADMAP
INFRASTRUCTURE & DATA CENTER

NCR Corporation: Disclaimer

The information on any roadmap shown is not a commitment, promise or legal obligation to deliver any material, code or functionality. The development, release and timing of any features or functionality described for our products remains at our sole discretion. Future product will be priced separately. This roadmap does not constitute an offer to sell any product or technology.

Solution Management Fundamentals

Strategic Thinking:



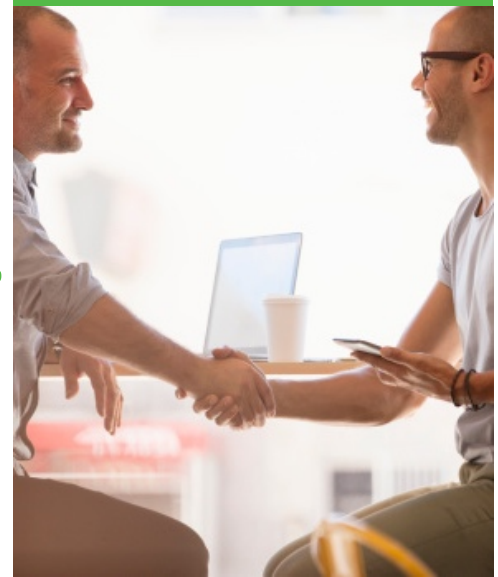
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Product Management
Excellence



+

Customer and Industry
Dedication



How do we determine what goes into releases?



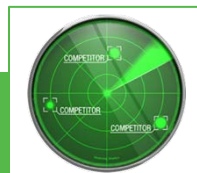
Tech &
Industry
Trends



Existing
Customer
Needs



Potential
Customer
Needs



Understand the
Competition



Identify
New Markets



Develop New
Segments of
Existing
Markets



Innovation
Breakthroughs

FOOD & DRUG

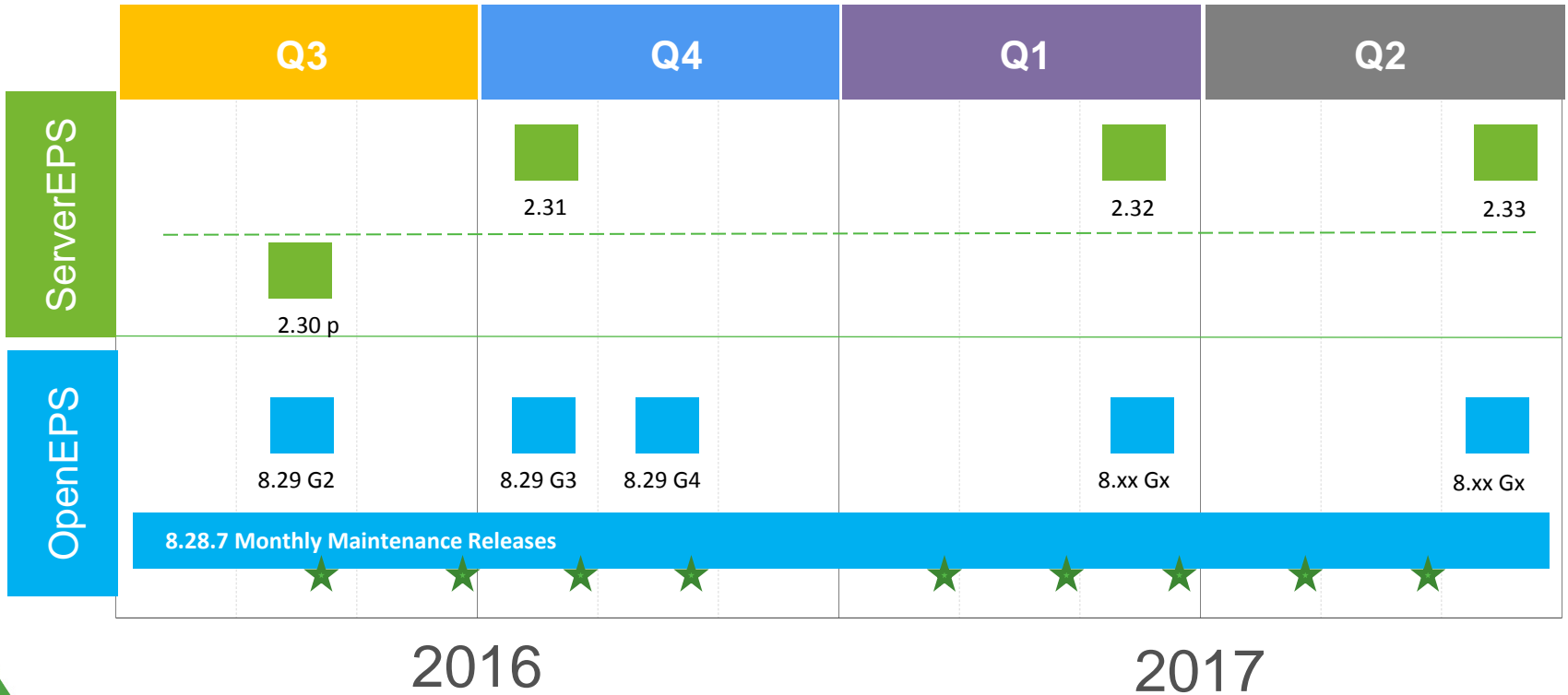
DEPARTMENT / SPECIALTY RETAIL

PETROLEUM / CONVENIENCE RETAIL

HOSPITALITY

ECOMMERCE / MOBILE

Upcoming Release Timelines



Solution Focus for 2016/2017



EMV Readiness

- Verifone
- Equinox
- Ingenico
- Quick Chip / M Chip
- Contactless
- Reporting



Security & Compliance

- P2PE Validation
- 8.28.7 PA DSS
- Card brand mandates
- Processor mandates
- NCR Network & Security Services



Consumer Engagement & Omni-Commerce

- Mobile Framework
- Mobile Devices
 - e335 – iOS
 - e355 – All
 - iSMP
 - iCMP
 - Miura
- eCommerce
- Apple Pay Loyalty



New Markets

- Hospitality
- Department / Specialty Retail
- Cinema
- Canada



Architecting for the Future

- TOR handling
- Reporting
- DB Optimization
- ConMan Improvements
- Design / POC Next Gen solutions

Contact EMV Certification Schedule

29 certifications complete, 10 underway!

NCR Connect Payments	First Data Concord H&C	First Data Rapid Connect	First Data ATL-105	Vantiv	WorldPay	Chase	Elavon
VeriFone Mx915, Mx925	Certified	Certified	Certified	Certified	Certified	Certified	Certified
VeriFone Mx915, Mx925 w/tips, adjustments	n/a	Certified	n/a	September 2016	October 2016	Roadmap 2017	Roadmap 2017
VeriFone TAVE Mx915, Mx925	Certified	Roadmap	n/a	n/a	n/a	n/a	n/a
VeriFone Mx850,860,870,880	Certified	Certified	Certified	Certified	Certified	Certified	Certified
VeriFone TAVE Mx850,860,870,880	Certified	Roadmap	n/a	n/a	n/a	n/a	n/a
VeriFone e3x (for Mobile)	August 2016	August 2016	n/a	n/a	n/a	n/a	n/a
VeriFone Vx820 – Hospitality with Tips, Adj.	n/a	Certified (credit)	n/a	October 2016	September 2016	Roadmap 2017	Roadmap 2017
VeriFone Vx820 – Hospitality No Tips, Adj.	n/a	September 2016	n/a	tbd	September 2016	Roadmap 2017	Roadmap 2017
VeriFone Vx820 TAVE for Hospitality	n/a	Roadmap 2017	n/a	n/a	n/a	n/a	n/a
Equinox L5200, L5300	Certified	Roadmap	Certified	Certified	Certified	Certified	Certified
Ingenico iSC250, iSC480	Certified	Roadmap	Certified	Certified	August 2016	Certified	Certified

EMV Readiness – Upcoming Key Deliverables

8.29.2 Gold Equinox FPE/EMV:

- Early adopter program successful
- A few pilot stores currently live
- Point of sale teams currently validating/regression testing Equinox/OpenEPS code
- Accepting more pilot customers



8.29.2 Gold Ingenico RBA/EMV:

- Various customers already lab testing
- Limited customer live pilot testing already underway
- General availability mid to late October 2016



828.7 Gold Verifone/EMV:

- Ongoing OpenEPS/EMV Enhancement and Stability Efforts
- Gold 26 – Scheduled for 3rd week of August
- Gold 27 – Scheduled for 4th week of September



Making EMV Faster

Visa QuickChip & MasterCard MChip

- NCR is currently reviewing documents from card brands
- Discover and AMEX now have their own version
- Integration is NOT as easy as the media depicts – certification requirements different by processor
- **Contactless**
 - Requires development and certification for all PIN pads and processors
 - Certification effort is significant



Mobile – eCommerce Strategy

Crawl

- **eCommerce - credit & gift transaction sets**

- Rapid Connect Host – credit
- SV Dot Host – gift
- iFrame integration - NCR Secure Pay
 - Reduces PCI footprint



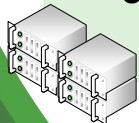
- **Thin Client – credit, debit, gift transaction sets**

- iOS only
- EMV
- P2P
- Verifone e3 device
- DCC
- Basic estate management



- **Omni Channel**

- Token Vault to support wallet, fulfillment, and in-store pickup



Walk

- **eCommerce**

- 3rd-party wallet support – PayPal, Apple Pay, etc.
- Integration to NCR commerce solutions: NRO, Counterpoint
- Support for retailer branded consumer facing apps

- **Thin Client**

- Additional device support: Ingenico, Miura, etc.
- Expanded Estate Management
- Extended / Endless Aisle

- **Omni-channel**

- Cross channel identifier

- **OpenEPS support for Mobile PED's**

- Verifone e3xx
- Ingenico iCMP & iSMP

Run

- **eCommerce**

- Load balancing / redundancy
- Dynamic scalability
- Support for all hosts – CNP industry type

- **Thin Client**

- SAF / Offline support
- Support of full ServerEPS transaction sets
- SDK for all mobile OS types
 - iOS, Android and Windows

















- **Omni-channel**

- Connected Payments eWallet
- Loyalty Program Integration (Apple Pay VAS)

- **Developer Self Service Portal**

- **Developer Sandbox**

Peak Readiness Improvement Matrix

	Send EMV Reversals Online	Remove excessive inserts / deletes	Run TOR processing in both DC's	Eliminate replication of delete commands	Purge stale data
Reduce data-loss scenarios					
Reduce double-charge scenarios					
Increase peak-load performance					
Reduce processing / queuing overhead					
Increase system resiliency					

Sneak Preview – Upcoming Releases

ServerEPS 2.31 Solution Enhancements

- Peak readiness - #1 priority
- Additional automation in our QA process - more internal tools
- Enhancing transaction management tool to include void functionality
- MasterCard “2 Series” BIN support
- Fuel support for Conoco cards

OpenEPS Solution Enhancements

- Continued maintenance for Equinox, Ingenico and Verifone EMV – prompt resolution for rollout & testing
- Foundation for QuickChip & Contactless EMV capability
- EMV support for Linux POS
- Verifone e355 Mobile Payment device
- EMV restaurant certifications & pay-at-table PIN pad integration Verifone VX690

INFRASTRUCTURE AND SAAS OPERATIONS

Peter Berry

Peak Readiness – SaaS/Data Center Activities

- **E2E Infrastructure Capacity Review & Gap Closure** – Perform an end to end infrastructure capacity assessment against Network, Storage, and Compute, and address gaps - **To be completed by 9/26/2016**
- **Pro-Active vs. Re-Active Monitoring Strategy** – Implement enhanced monitoring that includes:
 - **Enhanced Application Monitoring** - CA APM (Application Performance Monitoring) Implementation – Provide Real Time Business Transaction Monitoring for all online and offline transactions, Web Services, and WebEPS. In addition, application code instrumentation to monitor the health of the core application – **To be completed by 9/30/2016**
 - **Improved Capacity Planning** - Automate Capacity Reporting leveraging the newly implemented monitoring tools to improve ongoing capacity planning efforts across Operations teams– **To be completed by 11/09/2016**
 - **Improved Network Monitoring** - Enhancing our current Network monitoring capabilities with complete end to end monitoring for all Networking components - **To be completed by 9/30/2016**
- **Operational Readiness Plan**
 - **SME Training & Resource Gap** – Increase application and operational subject matter expertise across all Operations Teams to improve incident response times/availability. Address critical headcount gaps s if needed - **To be completed by 9/30/2016**
 - **Response Plan during Peak Periods** – Enhance existing peak readiness response process based off of the newly implemented Incident Management program. **To be completed by 10/22/2016**

Data Center Relocation

- NCR Global Strategic Initiative to leverage expertise, amplify best practices, and maximize efficiencies to provide you with the best services possible.
- These new facilities bring best-in-class reliability, resiliency, security, and compliance for all of our hosted applications and offerings and provides for future growth capacity and performance improvements
- Each of our new state of the art data center locations include innovative architectures and patented technology, designed from the ground-up with redundancy as a purpose built facility.



Data Center Relocation

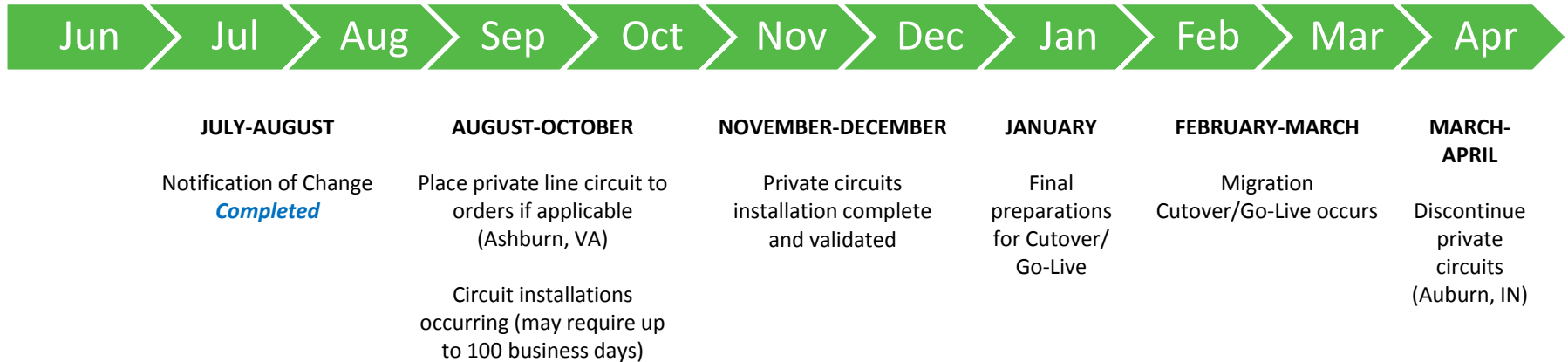
Ashburn Location Highlights:

- Patented 2N+2™ redundancy -- twice the redundancy of a standard Tier 3 data center
- Network access to 200+ telecom providers via Colo Connect service
- Local fiber connectivity to Northern Virginia's "center of the internet" where 70% of all worldwide Internet traffic traverses each day
- 9 layers of security; 3 factor authentication; 24x7 in-house security
- 14.4 MW power, scalable beyond 250 watts per sq. ft. and 28 MW backup generator power



Data Center Relocation – First Phase

Timeline - Overview



DISCUSSION





SYNERGY 2016
EXPERIENCE 2020

Thank you

Please remember to take the brief session survey in the mobile app.
Your feedback is very valuable to us!

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