iPortal
Our Journey

Internation Financial Institution

HCL

Customer Profile

The customer is an international financial institution that provides loans to developing countries for capital programs. It has a membership of over 185 countries and is committed to promoting foreign investment, international trade, and facilitating capital investment. In 2011, the group distributed $57.3 billion in credits, loans, grants, and guarantees

Why iPortal?

STRATEGIC OBJECTIVES	CHALLENGES	REMEDIATION
Greater Client Centricity	**Project orientation** Limited client view Rigid	**Client orientation** 360 client view Flexible systems
Improved Productivity	**One-size-fits-all** Dispersed information Complex Redundant DC-centric & slow	**Role and process based** One stop shop Simple and intuitive Single point of entry DC & field optimized
Improved Operational Management	**Limit control** Ad-hoc standards Limited business value	**Appropriate controls** Enterprise standards Valuable management insights

iPortal Overview

iPortal is a gateway to all the IFC business systems and information necessary to process a deal throughout the life cycle of a project – from client information to operational data. It makes accessing information easier—saving time and energy.

The iPortal Roadmap

iPortal 1.0

iPortal 1.5

iPortal 2.0
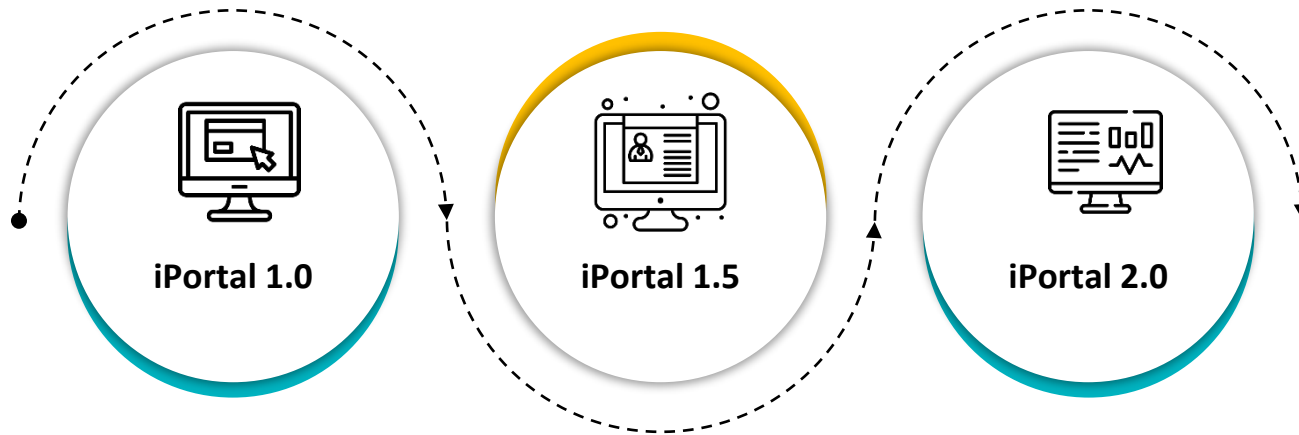
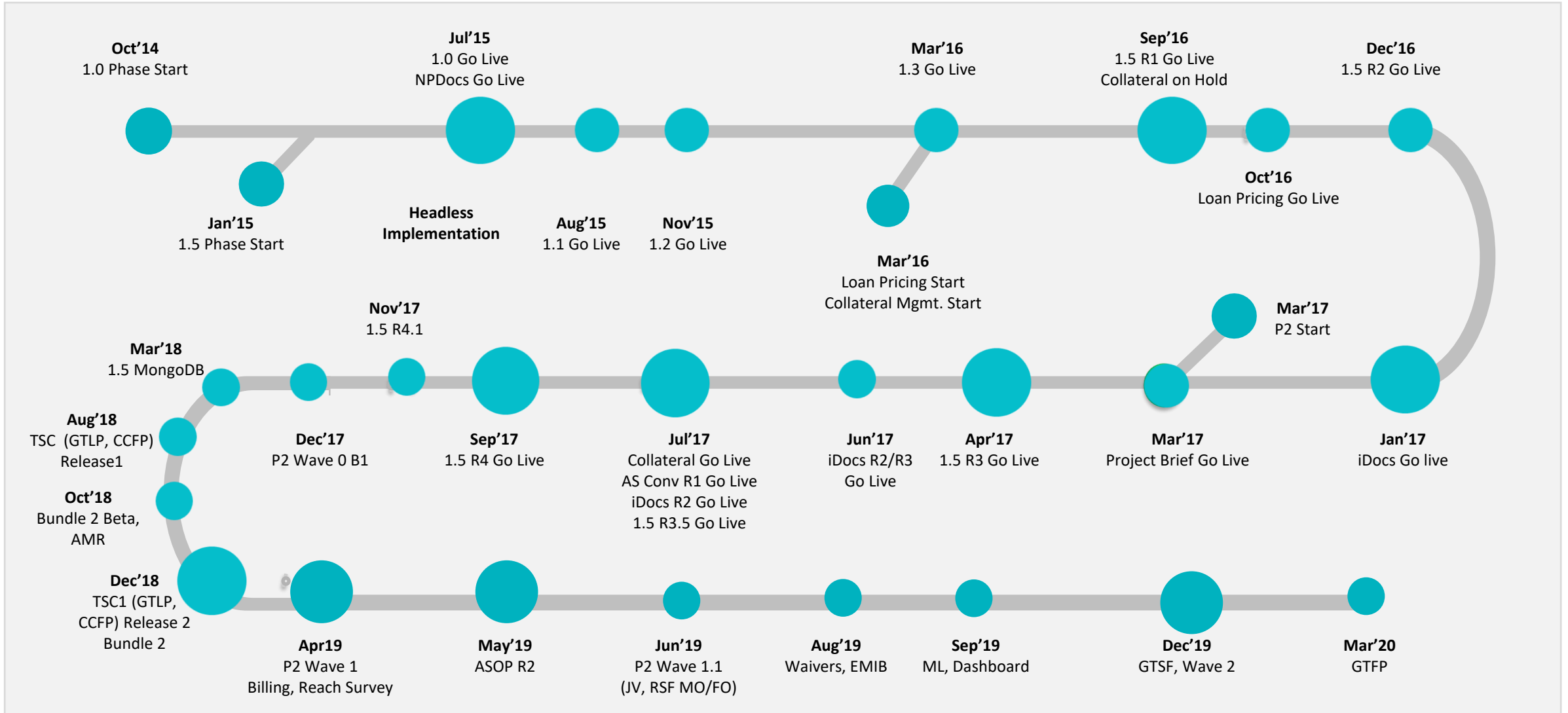|		
❖ Client, Partner 360	❖ Project 360	❖ Project Setup & Maintenance
❖ Create/Edit Partner	❖ Project Cycle	❖ Product Management
❖ Search	❖ 45 Templates with workflows	❖ Sources & Platforms
❖ Client/Partner group List	❖ Offline work capability	❖ External Portal - AccessIFC
❖ Client Group Details	❖ iDocs	❖ Trade & Supply Chain
❖ Integration with Tableau	❖ Loan Pricing	❖ UX/UI retrofit
❖ Project & Partner Relationships	❖ Collateral Management	❖ Personalization, Enhancements

ITS Performance Award 2015 – Best Project
iPortal 1.0

ITS Performance Award 2016 – Best Project
iPortal 1.5 &
Web

iPortal Journey Metro Map

Oct'14
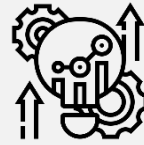1.0 Phase Start

Jul'15
1.0 Go Live
NPDocs Go Live

Mar'16
1.3 Go Live

Sep'16
1.5 R1 Go Live
Collateral on Hold

Dec'16
1.5 R2 Go Live

Jan'15
1.5 Phase Start

Headless
Implementation

Aug'15
1.1 Go Live

Nov'15
1.2 Go Live

Oct'16
Loan Pricing Go Live

Mar'16
Loan Pricing Start
Collateral Mgmt. Start

Nov'17
1.5 R4.1

Mar'17
P2 Start

Mar'18
1.5 MongoDB

Aug'18
TSC (GTLP, CCFP)
Release1

Dec'17
P2 Wave 0 B1

Sep'17
1.5 R4 Go Live

Jul'17
Collateral Go Live
AS Conv R1 Go Live
iDocs R2 Go Live
1.5 R3.5 Go Live

Jun'17
iDocs R2/R3
Go Live

Apr'17
1.5 R3 Go Live

Mar'17
Project Brief Go Live

Jan'17
iDocs Go live

Oct'18
Bundle 2 Beta,
AMR

Dec'18
TSC1 (GTLP,
CCFP) Release 2
Bundle 2

Apr19
P2 Wave 1
Billing, Reach Survey

May'19
ASOP R2

Jun'19
P2 Wave 1.1
(JV, RSF MO/FO)

Aug'19
Waivers, EMIB

Sep'19
ML, Dashboard

Dec'19
GTSF, Wave 2

Mar'20
GTFP

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iPortal's Architecture

USERS	**Investment Officers**			**Others**	
CHANNELS	**Desktops**		**Mobiles**		**Tablets**
PRESENTATION	**CSS**	**HTML**	**JavaScript**	**Telerik**	**PDF**
	App Parts (Share Point 2013		**JSON**		**Offline Document Access**
PROCESS	**BUSINESS MANAGEMENT PROCESS (Pega7)**				
	BPMN	**Notification**	**Workflows**	**Form & Templates**	**Business Rules**
INTEGRATION	**SOA Based Integration (Mulesoft-ESB)**				
	Web Service Orchestration		**Composite Services**		
	Connectors		**Atomic Services**		
BUSINESS	**IFC Domain Model**				
	Partner	**Project**	**Products**	**CRR**	**Financial** / **Documents** / **Client Groups**
DATA	**Data Access Layer**				
	iDesk	**Partner 2.0**	**CRM**	**IFCDocs**	**ODC** / **Search** / **iPortal** (Audit, Sharepoint, Pega ESB Repository)

Right side vertical bands: Single Sign Out · Certificate Authentication(Ipads · 2 Factors Authentications · SECURITY · GOVERNANCE · OPERATIONAL MANAGEMENT

Key HCL Differentiators

Ownership from HCL

Development and Review Best Practices

iPortal Reusable Framework

iPortal Academy

Debugging Simplified Solution Approach (DESI)

Dev Ops Details below

Value Adds

No	Component	No of instancesof re-use	No	Component	No of instancesof re-use
1	Branding (Overall Navigation, Header etc)	35	14	Help and Support	35
2	EMS	35	15	Authorization Helper(Access Mgmt)	18
3	Logging/Correlation id implementation	18	16	Resource Manager	35
4	Etag with 304 status (Performance Improvement Framework)	18	17	Configuration Manager	35
5	Compression (Performance Improvement Framework)	35	18	Cache Helper	35
6	JavaScript, Image and CSS Cache	35	19	Shell Layout Definition	35
7	Service Helper Framework	35	20	Centralized Tool Tip	52
8	Swagger	18	21	Mega Menu	35
9	Configurable Persona widgets	1	22	Common Banner	35
10	OData Versioning Support	18	23	Response Trace	Module Wise
11	Server-side optimizations for multiple calls	35	24	Nuget Framework Component	26
12	Cache Clearance for Go Live	35	25	Pega - Standardization of Workflows (Configurable W/Fs)	wise
13	Back Button Solution	35			

Reusable Framework – Foundational Work

- ❖ **Aligning to the Productized Delivery Model**
- ❖ **Single & Centralized Ownership of common framework**
  - o Avoid unwanted code specific to solution context & bring consistency
  - o Avoiding repeated components and version of same code
- ❖ **Develop, Maintain, Support & Manage**
  - o Manuals for integration of components
  - o Development, Defect Fix, Maintenance, Support, Upgrades
- ❖ **Source code and artefact management in centralized repository**
  - o Manage using Azure Artifacts
  - o Segregated Code & Access Controlled
  - o Centralized bookkeeping
  - o Centralized traceability

apigee

ANGULAR · MuleSoft

PEGA · SharePoint

MS Build · React

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DevSecOps Roadmap

Improve the time to market by reducing rework due to defects, manual errors and increase quality by stage reviews for code quality, automation of unit and functional tests

POC Phase Feasibility Study

- Market leadership in **Telecom**
- Extensive experience across all aspects of Service desk & Customer Support operations
- Engagements across Customer Lifecycle Management with all global Telecom Players and other Marquee clients

Implementation Phase

- Azure DevOps Server 209 Upgrade **Dec'19**
- Azure DevOps ALM process and configurations **Jan'20**
- Dynamic Token replacement for DB & service accounts **Oct'19**
- Password Encryption **Mar'20**
- Additional DevOps/ALM improvements **Feb'20**
- Agile Board **Jan'20**
- Synopsys Detect(OIS Hook –**Oct'19**

Steady State Phase

- Azure DevOps-CI/CD onboarding for all application and support.
- Azure DevOps infrastructure manage and monitoring
- Lower environments maintenance and new environment creation
- New modules Hosting & Configuration for iPortal applications (Realm, ApiGee, Azure, EMS, ESB, JBOSS) and monitoring/outage troubleshooting and fix .
- iPortal Release related Environment allocations
- All Api's (.Net, ESB, JBOSS), DB, Web (SP, .Net, ReactJS, Aws beanstalk) infrastructure related issues and down window
- iPortal application related lower environments deployments
- AppD configurations for New/Running applications
- General Queries and clarifications about IFC CITOP applications infrastructure.

| Azure DevOps | Unified Functional Testing (UFT) | MS Build | nunit | SharePoint |
| MuleSoft | ANGULARJS | sonarqube | .NET | React |

DevOps Accomplishments

DevSecOps Team Operational Activities

16750 DevSecOps-CI/CD
enabled successfully deployments

**825
Manual deployments**

3045 Environments
(Dev, QA, QA3, UAT,STG & Tranining) and applications configuration issues

455 Service Requests
(New host /configuration, Production deployments)

Before DevSecOps pipeline was established, team were performing close to ~9000 builds for the same capacity. Post the CD/CI pipeline was established, below are the outcomes.

❖ Increased 90% more deployments using same capacity

❖ Each Module can be independently deployed, there by reducing the time to market

❖ Quality & Predictability of builds increased since the deployment failures has reduced drastically

❖ Added environment management and coordination into DevSecOps team's scope and did additional requests at not extra cost

DevOps - Benefits

Reduced Cycle Time

- ❖ Improve the time to market by reducing rework caused due to defects
- ❖ Reduce manual errors in deployment
- ❖ Eliminate the need for manual code, security and performance reviews
- ❖ Reduce defects and improved code quality via automated unit tests
- ❖ Automated sanity checks via integration to automated functional tests
- ❖ Implement security checks, performance checks, code quality checks up the chain to reduce re-work

Agility

- ❖ Improve the time to market by making the time to develop, test and deploying the code is much faster.

Automation

- ❖ Reduce the cycle time for builds/deployments
- ❖ Reduce manual errors in deployment
- ❖ Eliminate the need for manual code, security and performance reviews

Predictability

- ❖ Much higher rate of reliability and predictability. Same code based is propagated from Development through Production. Security is systematically enforced and part of this process. The security controls are owned by banks security team and are part of the process from development to deployment

Digital & Analytics
by HCL Technologies

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DevOps - Toolset

Activities/Technology	.NET	SharePoint	Java	Mule ESB	PEGA	Mobile
Automated Build	MS Build	MS Build	Maven	Maven	PEGA/Custom scripts	Xamarin
Packaging / Configuration Management	TFS 2017	TFS 2017	TFS 2017/ Maven/ Custom Scripts	TFS 2017/ Maven/ Custom Scripts	PEGA	TFS/ Custom Scripts
Deployment	TFS/ Custom Scripts	TFS/ Custom Scripts	TFS/ Maven / Custom Scripts	TFS/ Maven /Custom Scripts	PEGA/ Custom Scripts	Custom Scripts
Unit-Testing integration	MS Test	N. A	J-Unit	M-Unit	AUT	N/A
Performance-Testing Integration	ySlow Load Runner	ySlow Load Runner	ySlow Load Runner	ySlow Load Runner	Load Runner	Xamarin/ Perfecto
Functional-Testing Integration	HP UFT	HP UFT	HP UFT	HP UFT	HP UFT	Xamarin/ Perfecto
Static code analysis	SonarQube	N.A.	SonarQube	SonarQube	PEGA / Guardrails	SonarQube
Security vulnerability check	SecureAssist	N.A.	SecureAssist	SecureAssist	PEGA / Guardrails	SecureAssist
Artefact Management	TFS	TFS	TFS/ Nexus	TFS/ Nexus	TFS/ Nexus	TFS

Note:
1) Pega is on hold for version upgrade to 7.2 version. 7.2 version has the CD/CI capabilities in Pega
2) Mobile set-up awaiting the servers

Digital & Analytics
by HCL Technologies

HCL

Accolades

From: Sekkappa Nagappan [mailto:snagappan@w...
Sent: Wednesday, July 6, 2016 8:41 AM
To: Satish Chandrasekaran <Satish.C@hcl.com>
Cc: Preeti Endlaw <pendlaw@worldbankgroup.org...
Pugalumperumal <upugalumperumal@worldbank...
Subject: Re: 2015 ITS Performance Award Winners

Satish
>we are glad to have been a small part
Far from it ! You and your teams have been core part of the implementation

The momentum is building up on 1.5 launch - a very impact full rollout. Will keep you posted
-nag

Tue 10/25/2016
Ajit Kumar, Pr
Re: Loan Pricing

To   Satish Chandrasekaran;
Cc   Balaji Yellavalli, Head of Ba
You forwarded this message

Well done

...ey our congratulations and deep appre...

From: Gowthaman Tamil Selvan
Sent: Sunday, September 11, 2016 10:54 AM
To: Arjun Kamisetty <akamisetty@worldbankgroup.org>; Neelima Muppalaneni <nmuppalaneni@worldbankg...
<pendlaw@worldbankgroup.org>; Uttandaraman Pugalumperumal <upugalumperumal@worldbankgroup.org
Cc: Neelima Muppalaneni <nmuppalaneni@worldbankgroup.org>; Sairam Ramakrishnan <sramakrishnan@wo...
Gurgaon <dhirajg@hcl.com>; Renjith Suryanarayanan <rsuryanarayanan@hcl.com>; Karthik Ramamoorthy <ra...
Shriram <mshriram@worldbankgroup.org>; Chenna Kesavulu Rayapu <crayapu@worldbankgroup.org>; Ashish
<spanda4@worldbankgroup.org>
Subject: RE: Reg CRR & ERA links are fixed now in Production environment

Thanks Arjun & Chenna – It's working fine. Looks like we have started reaping the benefits of Pega ☺

From: Suzanna...
Sent: Saturday, October 22,
To: Sekkappa Nagappan
Cc: Preeti Endlaw; Sundeep Keralavarma; Prashant
Suryanarayanan; Dhiraj Gosain, Gurgaon; Valentin Prudius; Waju...
Subject: Re: Loan Pricing enabled in Production

uoluwapo Kazeem; U...
stani; Stephanie von Fr...
...andaraman

what great news!

this new system will have a direct impact on both staff effectiveness, and financial sustainabilit...

cc: stephanie & wajdi

thanks to all,
suzannah

Sent from my iPhone

From: Neelima Muppalane...
Sent: Friday, October 28, 2016 12:55 P...
To: Karthik Santhanagopalan <ksanthan@worldban...
Cc: iPortal Core <iPortalCore_Internal_Use_Only@ifc.org>
Subject: thank you

Dear Karthik/Renjith,

I would like to thank y...
team and participati...
celebrations. It was...

As discussed, I w...

Lastly, please...

Thank you!

Best Reg...
Neelim...

The **Documents Tab** is the new user interface to view and manage all Project and Partner documents in iPortal, an altern...

Some of the key features are listed below:

✓ Allows all the functionality of IFCDocs and much more
✓ Preview or browse documents without the need to launch them
✓ Cross-file documents across projects and partners
✓ Easy navigation
✓ Simplified, consistent folder struct
✓ Provides consistent access for legal documents

...ble without a great deal of hard work and dedication from everyone listed below:

...lima Muppalaneni,
...Kumar, Deena Th...

Fri 8/12/2016 8:38 AM
Sekkappa Nagappan <snagappan@worldbankgroup.org>
Re: Thank you!

☐ Preeti Endlaw; ☐ Sairam Ramakrishnan; ☐ Neelima Muppalaneni; ☐ Dhiraj Gosain; ☐ Abhishek Misra; ☐ Swetha Heera Naik; ☐ Renjith Suryanarayanan; ☐ Ashish Mahesh Chugh...
☐ Somu Sinthamani; ☐ Rishi Prakash; ☐ Balamurugan Chandran; ☐ Deepak Srivastava; ☐ Sharnel Merdeck Pereira; ☐ Abhishek Misra; ☐ Pravin Wesley Samuel...
☐ Pravin Wesley Samuel; ☐ Kevin Thycheril Joseph; ☐ Sharath Kovela; ☐ Aparna Sanaka; ☐ Dhaval J. Shah; ☐ Michael Makar; ☐ Babalwa...
☐ Uttandaraman Pugalumperumal; ☐ Paripurnam Srinivasan

All, I echo Preeti. You turned arou...

Most of focus group members felt t...

Please take a breather - next 3 days...

Special thanks to the collective leade...

-nag

Tue 9/20/2016 3:14 PM
Suzannah Carr <scarr@worldbankgroup.org>
iPortal 1.5 - – One week later, one big thank you!

To   ☐ Sekkappa Nagappan; ☐ Uttandaraman Pugalumperumal; ☐ Preeti Endlaw; ☐ Sairam Ramakrishnan; ☐ Neelima Muppalaneni; ☐ Sharath Kovela; ☐ Sundeep Keralavarma; ☐ Sepideh B...
☐ Seshamma Venkata Chidpudi; ☐ Babalwa Nombexeza; ☐ Swetha Heera Naik; ☐ Pratiksha Panesar; ☐ Kevin Thycheril Joseph; ☐ Ahmed Ibrahim Elghobary; ☐ Dhiraj Gosain; ☐ Renjith
☐ Abhishek Misra; ☐ Prashant Garg; ☐ Lakshmi Balasubramaniam; ☐ Mohankumar Chanarayapatna Narasimhan; ☐ Shreeraam Raman Srinivasan; ☐ Kamalakrishnan Srinivasan; ☐ Mukesh
☐ Zhijun William Zhang; ☐ Murali Arunachalam Sripadam; ☐ Siva Srish Moduga; ☐ Naga Thota; ☐ Jasobanta K. Panigrahi; ☐ Savitha Murugesan; ☐ Prakash Jayabalan; ☐ Desmond Andra
Cc   ☐ ITSMT; ☐ Ethiops Tafara

Dear Colleagues,

Wow. What an accomplishment!

Thank you for your tireless efforts on this project. It has been a journey and we have just hit another huge milestone. You should feel proud of the work that
transform the way IFC's investment staff conduct their daily work, which, in turn, supports the corporation's mission. Now that is something to be excited ab...

I am proud of the way CIT/ITS worked as a team alongside the business. It was a strong partnership that—and I quote Etleva here—"was proof that when you
can create excellent products for the organization." Not only did we collaborate with the business, we worked closely across many ITS units to make this happe...
Platforms & Services, Office of Information Security, Enterprise Architecture, Client Services, Learning and Communications teams. A special thanks also to our v...
through this process and our local IT colleagues who helped test and champion the product. I feel we really leveraged the best ITS has to offer fully utilizing our key technology investments in Pega, ESB, Search and
next generation service oriented technology ecosystem. This extensible model should definitely stand us in good stead as we move towards 2.0 and beyond.

Fri 2/17/2017 7:18 AM
Henry Curry
Re: Azure POC - Demo and POC Accomplishments

To   ☐ Suryakant Torvekar; ☐ Uttandaraman Pugalumperumal; ☐ Tirumala Sai Jagadish Venigella; ☐ Bharath Kuppuswamykumar; ☐ Bikram Pal; ☐ Sankar Subramani; ☐ Prathap L; ■ Renjith Suryanarayanan; ■ Biju John
Cc   ☐ Prasanna Moorthi Narayanan; ☐ Sairam Ramakrishnan

Dear Surya et al,

I'm very pleased to hear that the full automation of our pipeline has been completed. This is a considerable achievement given the challenges faced...
comparison, though this is the second DevOps PoC at WBG, it is however the first to include functioning integration with the code quality and securit...
deployment of a production-based application (compared to a vanilla Drupal instance).

I would also like to call out the importance of having achieved this in our Azure environment, as this is an important milestone in our Cloud Strategy.

Thanks to everyone on the team for your dedicated, hard work (many long days and late nights getting through the troubleshooting and testing). I lo...
excited to showcase what has been achieved by the PoC team to our CIT and ITS peers and managers.

Great work, everyone! ...neering, Shared
...ur partners who stood with us

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by HCL Technologies

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Relationship™

BEYOND THE CONTRACT

$10.5 BILLION | 176,000+ IDEAPRENEURS | 50 COUNTRIES