Outline

• Background
• Concept Overview
• Key Feature & User Scenario
• How to use TIZEN PASS?
• Q&A
Background
TIZEN is expanding.
User Experience was

Few Devices

Few Tasks
User Experience will be

More Devices

More Tasks
So they might be doing
What it should be

TIZEN PASS
TIZEN PASS
Concept Overview
Our solution

New Convergence Experience
more suitable for **multi device environment**
that works via broadcasting method

“Tizen PASS aims to move beyond and ‘Pass through’ the existing barriers in multi-device environment. It was also intended to resemble the act of ‘Passing’ an object from one to another for more intuitive understanding of the concept.”
What it Does

More Things
- Multi Device Control

More Services (Apps)
- Contents Sharing & App Mash-Up

More Places
- Cross Device Personalization

Action PASS
- Contents PASS
- Identity PASS

PASS

How it Works

1. Toss
   - DATA

2. Stream
   - *Action PASS*
   - *Contents PASS*
   - *Identity PASS*

3. Act

Action PASS / Contents PASS / Identity PASS
TIZEN PASS

Key Feature & User Scenario

- Action PASS
- Contents PASS
- Identity PASS
Action PASS

Automate Daily Tasks
Use authoring tool to Toss **customized commands** for multi-device control (Simultaneously / Trigger Based)
Action PASS – Scenario

Every Morning....
Action PASS – Scenario

1. Gear
2. TV
3. Camera
4. Fridge
5. Washer
6. Light
7. Cleaning Robot
8. Tablet
9. Gear
10. Alarm
11. Power
12. TV Channel
13. Motion
14. Good Morning
15. Alarm
16. 07:00 AM
17. TV Channel
18. 103. News
19. Light
20. (Living room)
21. Turn On
22. Motion
23. Run

TIZEN DEVELOPER CONFERENCE 2015 SHENZHEN
Action PASS – Scenario

**My Flow**

- **Good Morning**
  - Last activated 30 min ago
  - Activated 14 times

- **Home Cinema**
  - Last activated 2 days ago
  - Activated 2 times

- **Call From Mom**
  - Last activated 1 hour ago
  - Activated 5 times

- **Update to phone**
  - Last activated 2 days ago
  - Activated 8 times
Contents PASS
Relevant Contents at a Glance
Toss Metadata to device connected to Stream. When device receives data, it provides relevant information from proper apps.
Contents PASS – Scenario (1)
Contents PASS – Scenario (2)

HEALTH STATS

WATER

CALORIES

CHECK ATTENDANCE

You consume 130Kcal
Drink 2 glass of water

Recommen to eat the Salad

Run with Family
River Park, San Francisco

Burn crazy calories
in 6 minutes

Sept 2015

HEALTH MAGAZINE

FESTIVAL
Identity PASS

Let every device welcome you
Identity PASS

Toss Preference information from private device to log-in & Personalize device.
(At the end of use, update & retrieve data)
Identity PASS—Scenario (1)
Identity PASS– Scenario (1)

Chris Log-in
Identity PASS—Scenario (1)

Guest Mode

Chris Log-in
Identity PASS—Scenario (2)
Identity PASS – Scenario (2)

Hotel TV Default

Hotel TV – Identity PASS Log-in
What this all means - User

**Action PASS**
Customized Multi Device Control
- Automate daily tasks

**Contents PASS**
Contents Sharing & App Mash-Up
- Relevant contents at a glance

**Identity PASS**
Cross Device Personalization
- Let every device welcome you
What this all means - Ecosystem

**User**
- Automate daily tasks
- Relevant contents at a glance
- Let every device welcome you

**Developer**
- More exposure which will lead to more app usage.
- Create rich experience by Tossed data from other apps.

**Ecosystem**
- Encourage non-mobile players to join Tizen Eco
- Provide holistic experience that ties HW-SW-Service.
TIZEN PASS

How to use TIZEN PASS API?
TIZEN PASS

Toss Stream Act = + +
Toss the Data / Share the Data in Stream / Act with the Data

D2D Inter-App Communication

- Transparent NFS
- D2D Service Binding
- Service Adaptor (Service Federation)

Data

```
{ "state" : "running", "calories" : 7, "steps" : 40,
  "distance" : 106, "speed" : 25, "heartRate" : 114 }
```
**Stream | TIZEN PASS**

**D2D Inter-App Communication**
- **Transparent NFS**
- **D2D Service Binding**

**Service Adaptor** (Service Federation)

**Transparent NFS (Network FileSystem)**
- Device to Device file operations
- Multiple transport layer
- Notifications support

**D2D Service Binding**
- Search convergence services
- Utilize IoTivity and SSDP
- Group-based sync management

**Toss the Data** / **share the Data in Stream** / **Act with the Data**

- `mymobile`
  - `apps`
    - `health_competition`
      - `health_competition.json`
- `hometv`
  - `apps`
    - `health_brief`
      - `health_brief.json`
Act | TIZEN PASS

Toss the Data / share the Data in Stream / **Act with the Data**

- **D2D Inter-App Communication**
- **Transparent NFS**
- **D2D Service Binding**

**Service Adaptor (Service Federation)**
- Access Rich Services via Uniform APIs
- Download Plug-in of Service Providers
- Integrate External Service directly into your App
- Syncing & Launching Service across Devices
Architecture

Contents

Application 1

Convergence Core

Convergence Service

D2D Inter-App Communication

Service Federation

App-Data Share Manager
Multi-Profile Data Converter
Task Manager
RESTful Stub Generator

D2D Service Binding

Service Federation

Service Monitor & Notification
Universal Protocol Manager

Transparent NFS

Cache Manager
Private Data Access Control

Service Adaptor

Abstraction
Auth
Contact
Messaging
Push
Storage
Plug-in Management

D2D Inter-App Communication

App-Data Share Manager
Multi-Profile Data Converter

Service Federation

Task Manager
RESTful Stub Generator

Transparent NFS

Cache Manager
Private Data Access Control

Service Adaptor

Abstraction
Auth
Contact
Messaging
Push
Storage
Plug-in Management

VFS

EXT4

Storage
File
DB
App Data

External Service

(Remote Device/ Infra)

Tizen Device

Services

Tizen PASS API (TOSS, STREAM & ACT)

Application N

Request

Data

Contents

Application 1

Convergence Core

Convergence Service

D2D Inter-App Communication

Service Federation

App-Data Share Manager
Multi-Profile Data Converter
Task Manager
RESTful Stub Generator

D2D Service Binding

Service Federation

Service Monitor & Notification
Universal Protocol Manager

Transparent NFS

Cache Manager
Private Data Access Control

Service Adaptor

Abstraction
Auth
Contact
Messaging
Push
Storage
Plug-in Management

D2D Inter-App Communication

App-Data Share Manager
Multi-Profile Data Converter

Service Federation

Task Manager
RESTful Stub Generator

Transparent NFS

Cache Manager
Private Data Access Control

Service Adaptor

Abstraction
Auth
Contact
Messaging
Push
Storage
Plug-in Management

VFS

EXT4

Storage
File
DB
App Data

External Service

(Remote Device/ Infra)

Tizen Device

Services

Tizen PASS API (TOSS, STREAM & ACT)
Send Data to Stream

pass_toss_create(pass_toss_h *toss)
pass_toss_set_function(pass_toss_h toss, pass_function_h function)
pass_toss_add_data(pass_toss_h toss, const char *key, const char *value)
pass_toss_send_to_stream(pass_toss_h toss, pass_toss_cb callback, void *user_data)

Receive Data from Stream

pass_stream_create(pass_stream_h *stream)
pass_stream_add_watch(pass_stream_h stream, pass_function_h function,
                      pass_stream_watched_toss_cb callback, void *user_data)
pass_stream_watched_toss_cb(pass_stream_h stream, pass_toss_h toss, void *user_data)
How to use the TIZEN PASS API | Action PASS

Single View on Stream

```c
pass_stream_create(pass_stream_h *stream)
pass_stream_foreach_device(pass_stream_h stream, pass_device_cb callback, void *user_data)
pass_stream_add_watch(pass_stream_h stream, pass_function_h function, pass_stream_watched_toss_cb callback, void *user_data)
```

Launch Remote App across Tizen Devices

```c
pass_act_create(pass_act_h *act)
pass_act_set_function(pass_act_h act, pass_function_h function)
    pass_act_add_data(pass_act_h act, const char *key, const char *value)
pass_act_send_launch_request(pass_act_h act, pass_act_cb callback, void *user_data)
```
Summary of Device Convergence

Apps Devices (Infra) Things

D2D Inter-App Communication / Transparent NFS / D2D Service Binding / Service Adaptor

Easy Data Sharing & Remote App Control between Devices

Toss into Stream

CloudBox
HealthBox
NotiBox
IoTBox

Stream

Contents PASS
Action PASS
Identity PASS

Acts accordingly to the streamed data

Toss

Data
Event
Account

Act

+ 

PASS

Data
Event
Account

NotiBox
CloudBox
HealthBox
IoTBox

Toss into Stream

Stream Contents PASS Action PASS Identity PASS

Acts accordingly to the streamed data

Easy Data Sharing & Remote App Control between Devices

D2D Inter-App Communication / Transparent NFS / D2D Service Binding / Service Adaptor
Thank You