Wi-Fi
Network: MPO Guest
Password: Welcome123
INTRODUCTIONS
Purpose

• Prepare and guide local governments and stakeholders on smart technology investments
• Exchange ideas among public, private, and non-profit sectors about how technology could impact community development
• Identify technologies that should be pursued to achieve regional goals
• Reduce socio-economic disparities in the community
• Leverage technology to maximize efficient use of tax dollars
Tasks

• Create regional policies and guidelines to fully leverage the opportunity for technological advancement and sustained vitality of the region.

• Research best practices and policies that help identify how technology can assist in implementing regional goals from efforts such as Capital Crossroads, The Tomorrow Plan, United Way OpportUNITY Plan, etc.

• Create a shared vision for the region that can be of assistance for future grant proposals and technical assistance opportunities.
Presentation

CENTURYLINK SMART SOLUTIONS
CenturyLink

Your Partner in Delivering Best-in-Class Technology Solutions

Smart City / District / Campus / Community Discussion
Introduction – Kevin Conway – CenturyLink Smart Solutions

What is a Smart Solution?

• A Smart Solution creates an unique End to End experience for a guest/fan/citizen.

• A Smart Solutions is a consulting driven project that combines Core Network, Wireless Connectivity, Smart Devices, Applications, and Data Analytics.

Customer Benefits of a Smart Solution

• Drive unique customer experience

• Increase revenues

• Improve operational efficiency

• Gain insights through analysis of collected data

• Evaluate and react to situations in real-time
### Business Drivers for Smart Cities / Communities / Buildings

<table>
<thead>
<tr>
<th>Efficiencies – Converged Platform</th>
<th>Higher Revenues from Improved Service</th>
<th>Resident Engagement</th>
<th>Increased Exposure and Interest via Innovation</th>
</tr>
</thead>
</table>
| • A **Converged Technology Architecture** creating a “Platform” which facilitates new and improved services and operational efficiencies.  
  • Includes converged LAN and data platform to better understand and optimize building performance. | • Improved revenue per square foot by providing differentiated experience  
  • Better Security  
  • Space Utilization  
  • Connectivity  
  • Wired  
  • Wi-Fi  
  • Mobile | • Provide exceptional situational awareness  
  • Expose the What, Where & When to tenants via:  
  • Signage  
  • Mobile Applications  
  • Electronic Notifications | • Leveraging technology to attract, retain and empower tenants  
  • Buildings that are seen as innovative attract innovate tenants and allow tenants to attract better talent. |

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**1. A Converged Technology Architecture** creating a “Platform” which facilitates new and improved services and operational efficiencies.

**2. Higher Revenues from Improved Service**

- Improved revenue per square foot by providing differentiated experience
- Better Security
- Space Utilization
- Connectivity
- Wired
- Wi-Fi
- Mobile

**3. Resident Engagement**

- Provide exceptional situational awareness
- Expose the What, Where & When to tenants via:
  - Signage
  - Mobile Applications
  - Electronic Notifications

**4. Increased Exposure and Interest via Innovation**

- Leveraging technology to attract, retain and empower tenants
- Buildings that are seen as innovative attract innovate tenants and allow tenants to attract better talent.
### Smart City / Districts / Campus / Community Focus Areas

<table>
<thead>
<tr>
<th>#</th>
<th>Focus Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Street, Surface and Indoor LED Lighting</td>
<td>Manage different lighting solutions to reduce energy and maintenance costs</td>
</tr>
<tr>
<td>2</td>
<td>Street and Garage Parking</td>
<td>Give citizens live parking availability information to reduce circling and congestion.</td>
</tr>
<tr>
<td>3</td>
<td>Traffic Monitoring</td>
<td>Monitor and manage traffic incidents to reduce congestion and improve livability</td>
</tr>
<tr>
<td>4</td>
<td>Safety &amp; Security</td>
<td>Automatically detect security incidents, shorten response time, and analyze data to reduce crime</td>
</tr>
<tr>
<td>5</td>
<td>Location Aware Mobile Applications</td>
<td>Provide view of people flow data to aid planning and leverage location data for contextual content and advertising</td>
</tr>
</tbody>
</table>

**Shared Infrastructure Layer:** Smart Community Connectivity (WiFi, LoRa, LPWan)

**IoT Platform – Common Information Layer**
Smart City / Districts / Campus / Community Solutions

**Smart City / District / Campus / Community - ITS**
- Smart Lighting
- Public Safety / Security
- Parking
- Consumer WIFI / DAS
- Smart / Connected Residents (MDU / MTU)
- Social and Mobility Solutions
- Building Access / Elevators
- HVAC / Water / Equipment
- Government, Education, & Admin

**Benefits of a Smart Community Solution**
- Video Surveillance and Street Lighting allow for greater Safety
- WIFI enhances the residence and visitor community / city / campus experience
- Smart / Connected Home provides an enhanced Home Owner / Tenant experience.
- Smart Lighting and Waste Water Management systems reduce operation costs

**Smart City / District / Campus / Community Components**
- Design / Selection
- IOT Sensors
- Location Aware Applications
- Big Data and Advanced Analytics
- Hosting Infrastructure
- Smart / Connected Home
- Network (BackBone and Wifi)
- Integrated IoT Platform
Building Systems Are Moving to a Single IP Network

- Simplified Management, Lower Costs

Light Fixture Becomes a Data Source; Broken Silos Enables Analytics
IoT Platform Visualization and Reporting – Bringing All Systems Together
CenturyLink is working with the most innovative New Communities

Communities of the Future

First “all solar powered community” in U.S.

CenturyLink chosen as their main technology partnering to deliver connected solutions
Sample Projects – Mixed Use Development in Denver

Key Technology Elements:
• Dual Path, Wide Area Network Connectivity
• Local Area Network Infrastructure
• Power of Ethernet LED Internal Lighting
• Connected LED Surface Lighting with Ambient Light and Motion Detection
• Public-facing Wi-Fi connectivity in common areas both inside and outside
• Wi-Fi Infrastructure to support business connectivity throughout complex
• Carrier Neutral Digital Antenna System (DAS)
• Video Security and Access Control Systems with video analytics capabilities
• Digital Signage and Concierge
• Smart Parking with elevation and space routing
• Integrated Mobile and Web Experiences
• Integrated Building Management and Technology Management Platform
• Onsite technical support
• Extensible infrastructure to add new technologies over time
How to move forward to make Smart City / Community Happen

• Have a Plan
  – Vision / Strategy
  – ROI
  – Budget

• Pick Strategic Partners
  – Not Vendors

• Build the Foundation
  – Power
  – Network IoT Platform
  – Security

• Provide Leadership
  – Drive Change
    • Not the same old way
  – Inspire
  – Empower

• Have Fun!

• This is the fun stuff that long term will make a major difference!
Q&A

Thank You!
Smart Building Solutions

- Video Surveillance
- Wi-Fi & DAS Systems
- Telephony
- Automation Systems
- Tenant & Building Management Apps
- Smart Lighting
- IPTV and Signage
- Converged IP LAN
- WAN Connectivity
IoT Platform Visualization and Reporting – Bringing All Systems Together
Multi Building Dashboard

- List (with sortable columns):
  - Building Name
  - Scored building performance
  - Location
  - Cost of Energy Consumption
  - Number of Service Alerts
  - YoY Performance Trend

- Map of Building Locations
- Rolled Up Report
  - Total Cost of Energy trailing 12 months
  - Average Performance trailing 12 months
Performance Scoring

- Map of Locations
- Sortable, Grid View
- Easily compare Average Score/Ranking
- Filters by location, type, score
Single Building Dashboard

- Key Reports
  - Performance
  - Energy Consumption
  - KWh Per Sq. Ft
  - Cost of Consumption (Consumption * rate)
  - Trend of the above over trailing 12 months
- Lists
  - Alarms
  - Service Event / Open Work Orders (need to check AA open close capabilities)
- Navigation Elements
  - Compare (Multi Building)
  - Equipment List at selected building
Asset Dashboard

- Add graph of Energy Consumption of trailing 12 months
- Location
- Manufacturer info (serial #, description)
- Date (manufactured, installed, serviced)
- Percent uptime
- Historical property data
TECHNOLOGY IN POST DISASTER RECOVERY

Presentation
Update

TRANSPORTATION SUBCOMMITTEE
Transportation Subcommittee

- Brian Willham, Snyder & Associates
- Joe Spradling, HDR
- Andy Swisher, HR Green
- Ryan Davis, McClure
- Luis Montoya, DART
- Mike Armstrong, Street Collective
- Donna Matulac, Iowa DOT
- Anuj Sharma, InTrans
- Leslie Bubke, City of Ankeny
- Jim Dickinson, City of West Des Moines
- Dylan Mullenix, MPO
Task: Smart City Vision of MPO Long-Range Trans. Plan

• Smart City Vision
  I. Use of innovation (new approaches to operations and/or technology) to support regional and community transportation goals
  II. Support Vision Zero initiatives (i.e. systemic approach based on risk)
  III. Traffic Management (routine / emergency)
  IV. Integrated Corridor Management

• Example projects (region wide and community)
  I. Infrastructure Projects
  II. Technology Projects
  III. System Operations (i.e. funding for staff / operating costs)

• System Optimization project scoring / evaluation process

• Schedule: 2050 LRTP is due in October 2019
Action Items

• Develop a schedule for Transportation Subcommittee meetings and deliverables

• Research and document what other regions in the Midwest (and beyond) are doing / talking about
  Research and document regional and community transportation initiatives / plans
  – Capital Crossroads
  – The Tomorrow Plan
  – United Way OpporUNITY Plan
  – Community Plans

• Research and document Vision/goals/action items from recent / on-going ITS Master Plans (City of Des Moines, Western Suburbs, Iowa DOT)
Continued Discussion

TECHNOLOGY PREPAREDNESS PROJECT
Foundational Smart City Preparedness

- **Issue:** Stakeholders need foundation in smart city issues before area can dive deep into identifying solutions to problems.

- **Direction:** Identify and develop foundational elements to smart city efforts; share resources and information among the roundtable.

- **Discussion at October 3rd meeting focused on:**
  - Network connectivity – fiber availability
  - Understanding level of access and infrastructure necessary
  - Data management, sharing, and open data
Foundational Smart City Preparedness

• Tasks identified
  – Identify existing public fiber network
  – Understand community policies regarding network development and data sharing
  – Identify gaps and underserved areas

• Additional tasks?

• Interested participants?
FEEDBACK AND TOPICS FOR NEXT MEETING
OTHER ITEMS OF INTEREST