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# Global-i Consulting Webinars

Topic

**How Cable MSOs Compete  
and Win in the Current and  
Evolving Marketplace**

Presenter

Dave Roy

Founder/President of Global-i, Inc.  
and Cable MSO Consulting Practice Leader

Date

September 24, 2010

# Presenter Bio

## Presenter Bio:

Dave is the founder/ president of Global-i, Inc., with about 20 years of experience in the Converged Communications & IT industry. He is also the Cable MSO Consulting Practice Leader for Global-i.

His experience ranges from successful project turnarounds & leadership roles in Global/National CSPs & Infrastructure OEMs. Dave was part of building multiple Commercial Products & Services Programs at leading CSPs across Wireless, Wireline, IP, Cable MSO, Broadband, Satellite, etc offerings. Specifically, in the Cable Services areas, Dave was closely tied to efforts at Time Warner Cable, Sprint-Nextel, T-Mobile, Nextel, Glenayre Technologies (now Movius Corp), NEC, XO, etc for Voice, Data, Video, Messaging and other Applications across Enterprise, Consumer, and Carrier Space for Full-Lifecycle Management activities. At Global-i related to Cable MSO Services, Dave spearheaded efforts with RCN Business Service on TalkWare VoIP (Hosted PBX, SIP Trunking) launch and with Sprint-Nextel's XOHM/Clearwire & Inverca Telecom's on 4G Pre-launch efforts. Over the last decade & more he has worked closely with several leading Cable MSO Vendors.

Dave has an M.B.A. from University of Toledo & another Masters with a focus in Public Admn. & Info Systems from University of Akron in Akron, Ohio, U.S.A. He has a Bachelor's in Economics from Delhi University in India.

Dave & Global-i Cable MSO Practice team can be reached at [CableMSOPractice@globaliconsulting.com](mailto:CableMSOPractice@globaliconsulting.com)

# What do we think of Cable Providers?

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Cable Providers Today are Surely  
“Not” just a Cable TV Access  
Provider!

Cable MSO Technologies are Starting be  
seen Everywhere – Traditional Cable TV,  
Cable Telephony, Cable Internet for  
Residential Customers and even serving  
SMB, Enterprise, Government and Carrier  
Space



# Agenda

- Evolving Cable MSO Landscape
- Cable MSO Challenges
- Key Drivers for Deploying Next-Gen Cable MSO Solutions
- User Scenario for Cable MSO Investments
- Cable MSO Reference Architecture
- Solution Options
- Cable MSO Deployment (Operator Service Launch)
- Vendor Cable MSO Portfolio Launch
- Our Capabilities
- Our Approach
- Q&A

# Cable MSO

## Evolving Landscape

- Conventional Cable TV Operators have evolved into Cable MSOs or Cable Multi Service Operators with expanded service portfolios
- Cable MSOs have seen revenue and cash increase despite slowing subscriber unit growth, although they are still a small percentage of the market outside of Cable TV Services
- Success of MSOs is attributable to their range of fresh and superior service offerings coupled with enhanced quality of experience (QoE)
- Cable MSOs are facing strong competition against not only other Cable MSOs, but also the Telcos, Wireless Service Providers, Satellite Service Providers and others

# Cable MSO

## Evolving Landscape

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- MSOs are capitalizing on leasing wired broadband and providing bundled packages that include voice services
- Entry into the mobile world has been shaky, and requires more robust and long-term network vision, strategy and developments
- On the Commercial and Business-Class side, the MSOs have at best fallen short of becoming a serious threat to the traditional Telcos, Business Service Providers, MSPs, etc as they have yet to prove their strengths for being a One-Stop-Shop to the Small, Medium and Large Enterprise Customers

# Cable MSO

## Evolving Landscape

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- As the Nation's largest MSOs approach \$1 billion in commercial revenues out of a \$130 billion plus US telecom services market, MSOs see Ethernet solutions, Wireless Services, Cellular Backhaul, Managed Services, SIP Trunking and Hosted VoIP as strong areas for growth
- MSOs wanting to leverage cable industry's costs of delivering mission-critical business services are looking at both capital and operating expenses of upgrading cable HFC (Hybrid Fiber Cable) plant for reliability and redundancy by maintaining the plant at the service levels demanded by commercial customers
- Service Convergence is necessitating future Cable MSO network evolution to DOCSIS 3.0, Packet Cable 2.0 and IMS

# Cable MSO Challenges

- Several Challenges have resulted in Cable MSOs to Manage their Investments in Advanced Services
- **Service and Network Vision**
  - With the advent of Network, Application and Device Convergence, the MSOs of the future are challenged for aggressive growth and partnering activities
  - Multiple Value-added Services to their subscribers
  - Confusion on how to build and deploy the next-generation Network around a robust multi-services roadmap
- **Cable Adapting to IP Video Strategy**
  - Cable industry is interested in building its TV Everywhere strategies and is pondering ways to deliver video to PCs, Smartphones, Android Phones, iPhones and broadband-connected tablets

# Cable MSO Challenges

- **Competition from all Sides**

- Telecoms are gradually shifting to full service operations with IPTV services based on ADSL/FTTx competing for traditional TV subscribers
- MSOs have to compensate for a lack of mobility with a bundle of TV, fixed, mobile and broadband services
- All in all, residential and business services competition is getting intense

- **Evolving to IMS**

- Future of network evolution to IMS and All-IP will simplify network architecture and service management
- Successful incorporation of PacketCable 2.0 into the IMS standard has intertwined the future of the two
- IMS-based core networks and independent sub-networks carrying quadruple services will offer identical interfaces to the B/OSS

# Cable MSO Challenges

- **Enhancing the network**

- Current Rich content flood further heated up by HD, 3D and Content Networks will be increasing traffic rates across backbone networks heavily each year
- Access networks are experiencing double to triple digit annual growths
- Bottlenecks caused by HDTV and P2P applications in the backbone transmission capacity is causing overhauling the DWDM capacity, router clustering and 40G/100G interfaces

- **Direction of the access networks**

- xPON as the most promising ultra-wideband access technology is destined to lead future access networks and will ultimately accommodate the data over cable service interface specifications (DOCSIS) evolution
- FTTx will become more of a reality for the MSOs as it is easy to deploy the Fiber technologies in new buildings to give light speed access to multiple technologies
- In the wireless arena, MSOs need to make their service capabilities adapted to the evolving LTE networks

# Key Drivers for Deploying Next-Gen Cable Solutions

- **Growth of Mobile Internet Traffic has very interesting implications on MSOs**
  - New Dominant Traffic Types are:
    - Mobile VoIP, Mobile Video, Mobile Web and Data, Mobile Gaming
- **Mobile Video to Play a Huge Role**
  - An Industry Forecast Predicts Mobile Video will account for 66 percent of the global mobile data traffic by 2014
- **Changes in Converged Networks Affects Business Models**
  - IP Networks will need to deliver Unprecedented Scale, Performance and Intelligence
  - MSOs are forced to Invest in CAPEX and move into Mobility from Business Services
- **Heavy Convergence**
  - Convergence of the PC, TV and more all on one Network

# Next-Gen and Beyond Investment Cable MSO Scenario

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## What is the MSO Facing?

- MSO will be offering New IP-based Services
- CNO is devising a Network Strategy in Conjunction with the CSO and CTO devising the Service Strategy, that will reflect the Network Transformation Goals and Keep the Investment Protected with a Flexible and Open PacketCable Architecture
- Network Transformation Goals are 2 fold: meeting needs of (a) Next-Gen Services, (b) Revenue & Cost Management

## What is the Existing Infrastructure?

- Upgraded Network with DOCSIS Platform
- Multiple Investments made over the years on Configuration Changes
- Legacy DOCSIS platform unable to cope up with quick Next-Gen Services Deployment, Advanced Customer Lifecycle Management & Stronger Revenue Management

## How can Next-Gen Cable Systems Improve the Solution?

- Significant Advantage of Open Architecture for Quick Service Enablement, 3<sup>rd</sup> Party Applications with Real-Time Rating/Charging and New Distribution Models with Revenue Sharing
- Customer Cycle from Sales Order to Customer Care Smooth Flowing
- Scalable Network and Systems with Capabilities for Robust Services, Efficient Service Provisioning, Charging, Rating and Advanced Revenue Management leading to Increased ARPU's and Reduced Operations Costs Per Subscriber

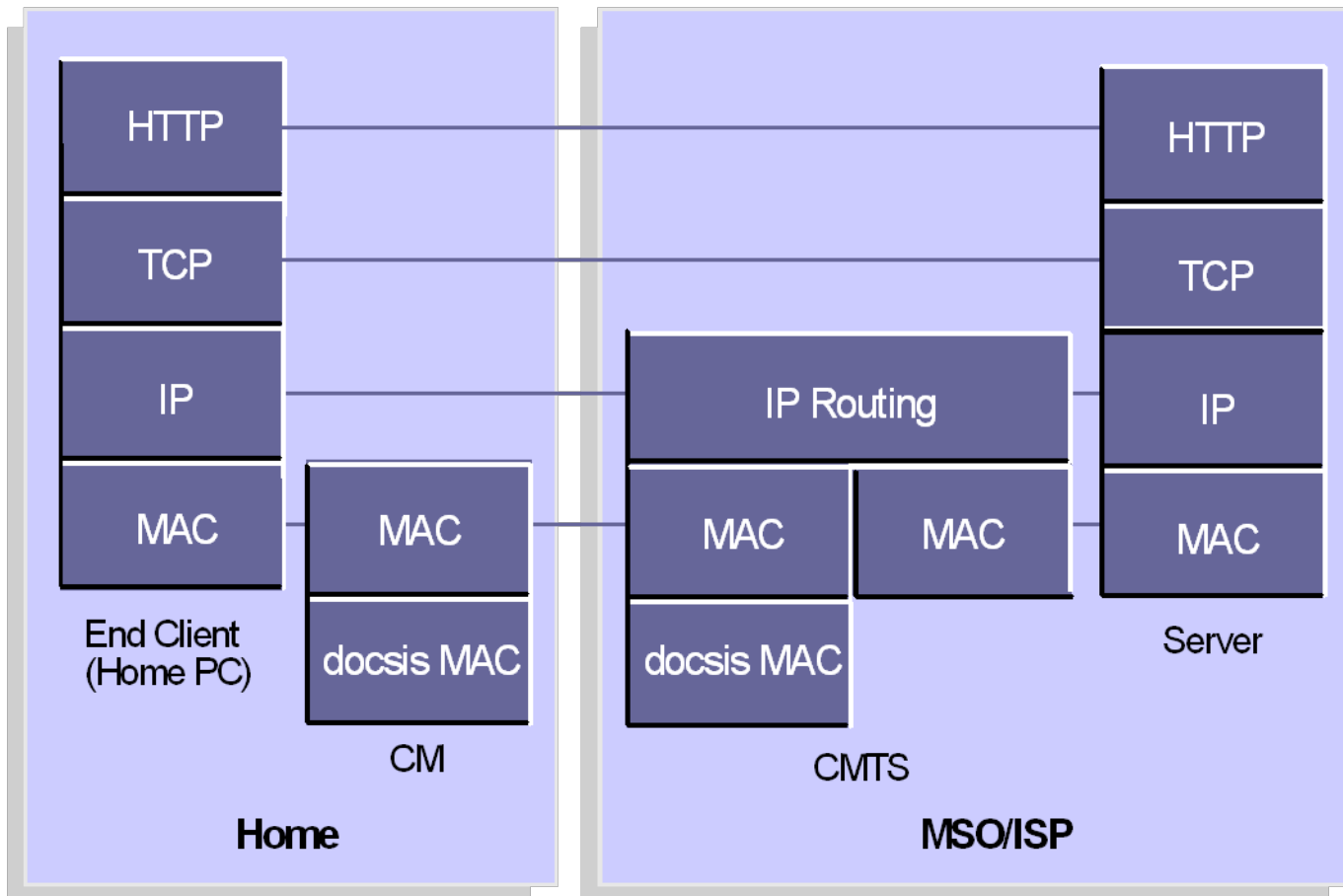
## How can MSO Solutions Improve the Offerings?

- MSO can dynamically offer the Advanced Convergence-based Services with Optimum Services Bundle meeting target market demands and competitive price pressures
- MSO can offer Flexible Offering and Bundling Capabilities with Quick Feature Upgrades on Existing Devices, New Services on New Device Lineups and Integration with Rich 3<sup>rd</sup> Party Applications

## What are the Value Propositions?

- Increase Subscriber Sign-up of New Services
- Offer New Bundling Models with Productivity Gains from New Services for Subscribers across the Multiple Market Segments (Consumers, Business, Carrier)
- Offer a Sticky Model for MSOs to Retain Subscribers over a longer-time frame with a Flexible Model

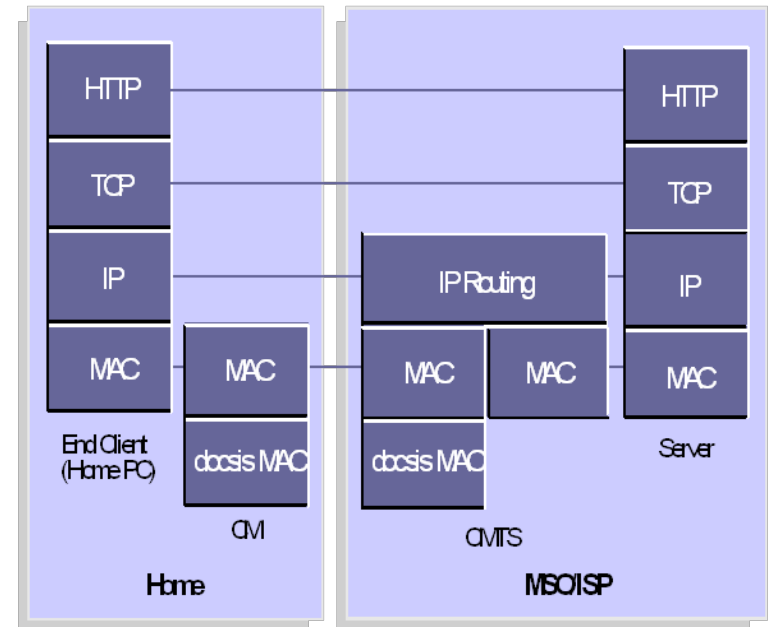
# Cable MSO's DOCSIS Reference Architecture



**DOCSIS  
Base  
Architecture  
in place for a  
while  
showing  
End-to-End  
Protocol  
Stacks at  
Subscriber  
Home and  
MSO/ISP  
Point of  
Presence**

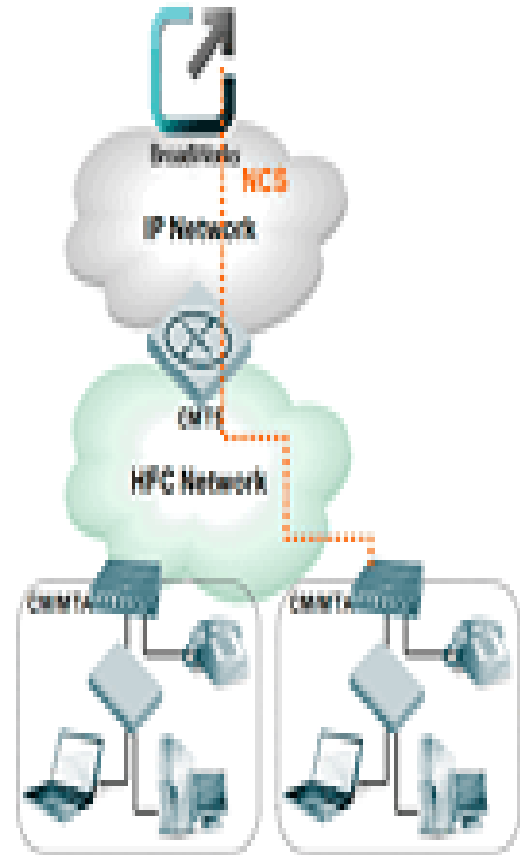
# Cable MSO's DOCSIS Reference Architecture

- The generic DOCSIS architecture model is quite simple
- The PC generates IP over Ethernet packets
- The Cable Modem (CM) acts as a bridge and forwards the Ethernet frames to the network
- DOCSIS specifies a new MAC layer from the CM to the Cable Modem Termination System (CMTS) in the upstream direction
- The Ethernet frame is encapsulated by the CM in a DOCSIS MAC frame and sent to the CMTS
- The CMTS is either a router or a bridge. In either case, the CMTS de-encapsulates the Ethernet frame and forwards it upstream



# Cable MSO Reference Architecture (BroadWorks PacketCable 1.6 Network)

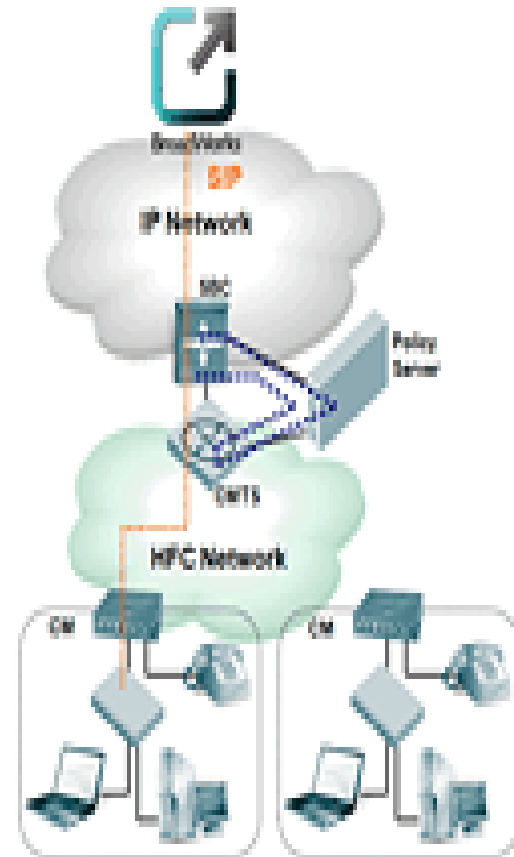
- BroadWorks provides a core set of residential services based on the PacketCable Residential SIP Telephony (RST) feature specifications
- Core set of services can be augmented with high value, differentiating services such as Simultaneous Ring, Sequential Ring, and BroadWorks Anywhere
- Through BroadSoft Xtended, MSOs can offer their users new and innovative ways to integrate their phone experience with other services they use on the web



# Cable MSO Reference Architecture (BroadWorks PacketCable – MultiMedia Network)

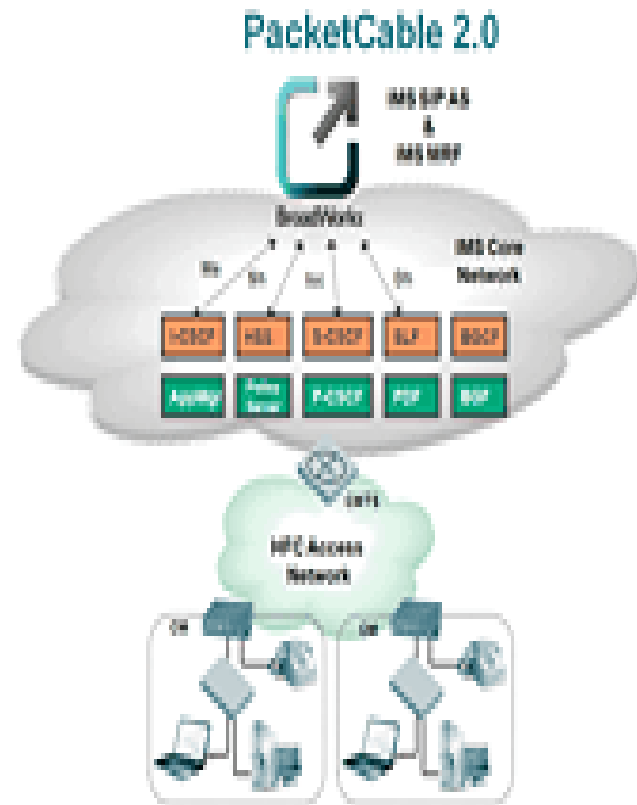
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- BroadWorks supports the core set of commercial services based on the PacketCable Business SIP Services (BSS) feature specification
- Core set of services can be augmented with over one hundred business features including advanced services such as voice/video mail, meet-me conferencing, and call centers
- Through the Broadsoft Xtended Program, operators can tap into a rich ecosystem of third party ISVs that are extending BroadWorks to meet the specific communications needs of various vertical business markets

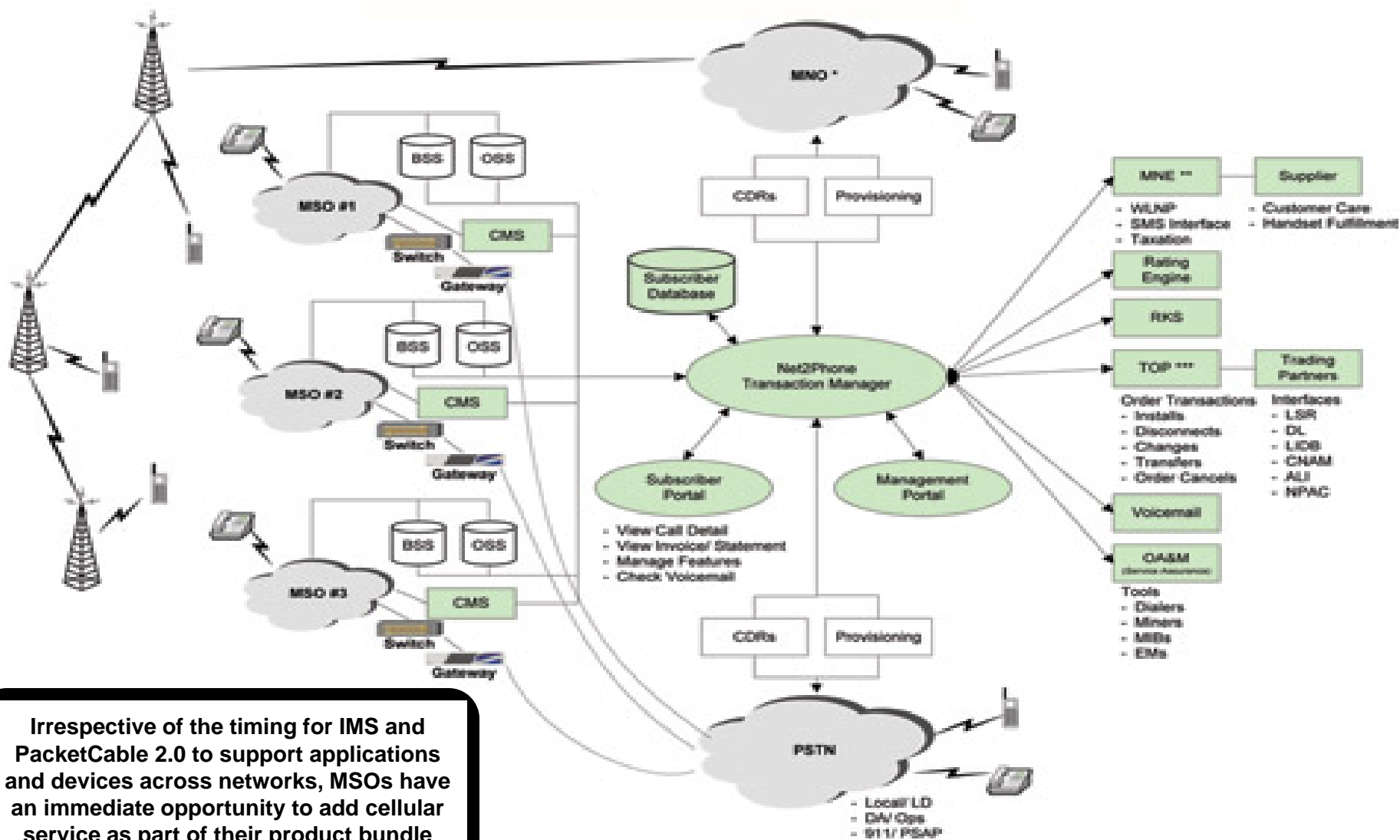


# Cable MSO Reference Architecture (BroadWorks VoIP Architecture)

- In a PacketCable 2.0 network architecture, which is based on the 3GPP IMS reference model, BroadWorks provides a standards based SIP Application Server (SIP AS) and Media Resource Function (MRF)
- This uses the same BroadWorks network elements and software employed in the PacketCable 1.5 and PCMM (PacketCable Multi Media) solutions, giving operators a solid upgrade path towards a PacketCable 2.0 network infrastructure



# Cable MSO Reference Architecture (Adding Cellular Services)



Irrespective of the timing for IMS and PacketCable 2.0 to support applications and devices across networks, MSOs have an immediate opportunity to add cellular service as part of their product bundle

- View Call Detail
- View Invoice/ Statement
- Manage Features
- Check Voicemail

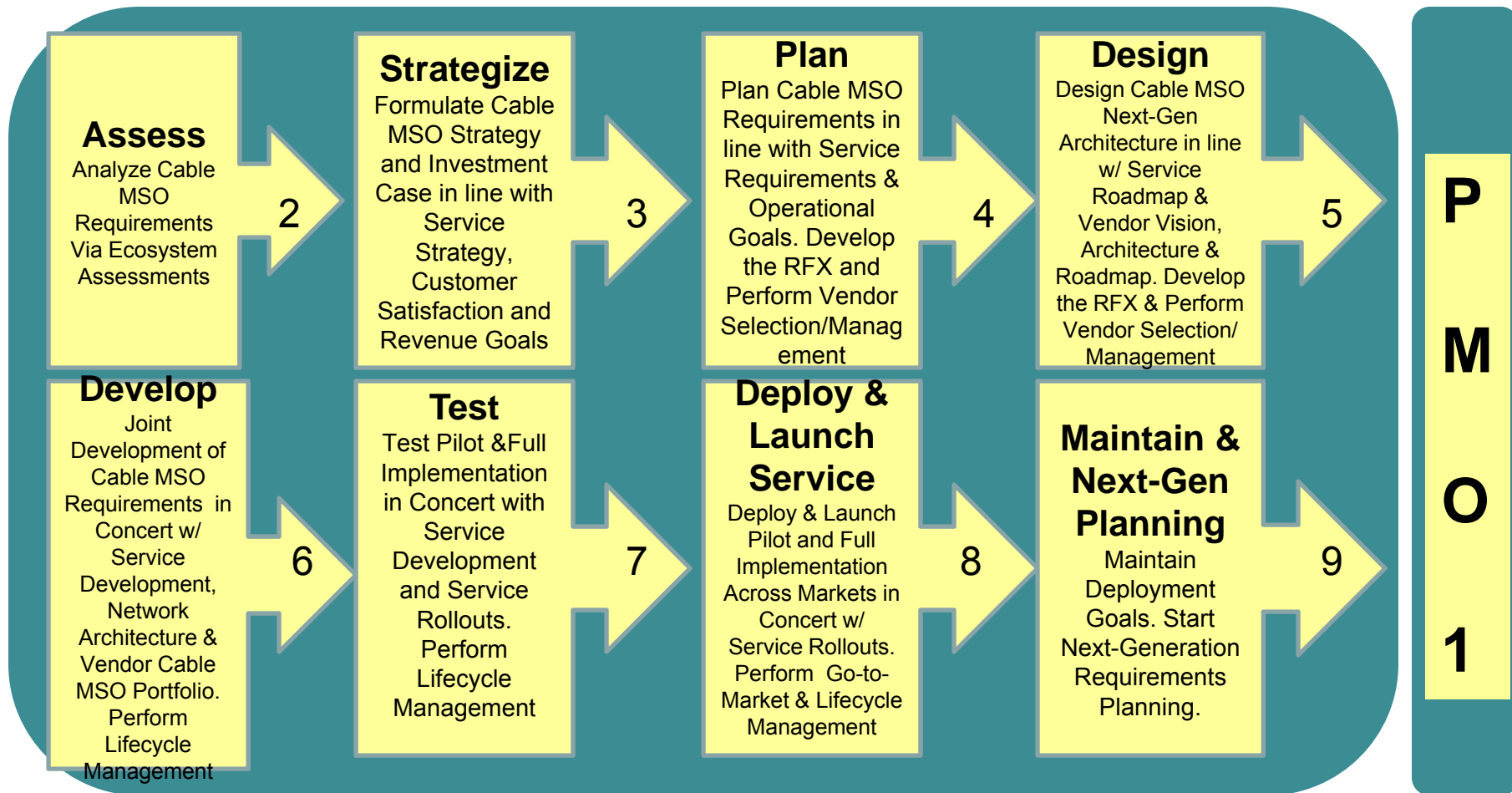
- MNE**
  - WMLP
  - SMS Interface
  - Taxation
- Supplier**
  - Customer Care
  - Handset Fulfillment
- Rating Engine**
- RKS**
- TOP**
  - Order Transactions
    - Installs
    - Disconnects
    - Changes
    - Transfers
    - Order Cancels
  - Interfaces
    - LSR
    - DL
    - LICB
    - CHAM
    - ALI
    - NPAC
- Trading Partners**
- Voicemail**
- QASM (Service Assurance)**
- Tools**
  - Dialers
  - Miners
  - MISs
  - EMs

# Cable MSO Implementation

## Sample MSO Client

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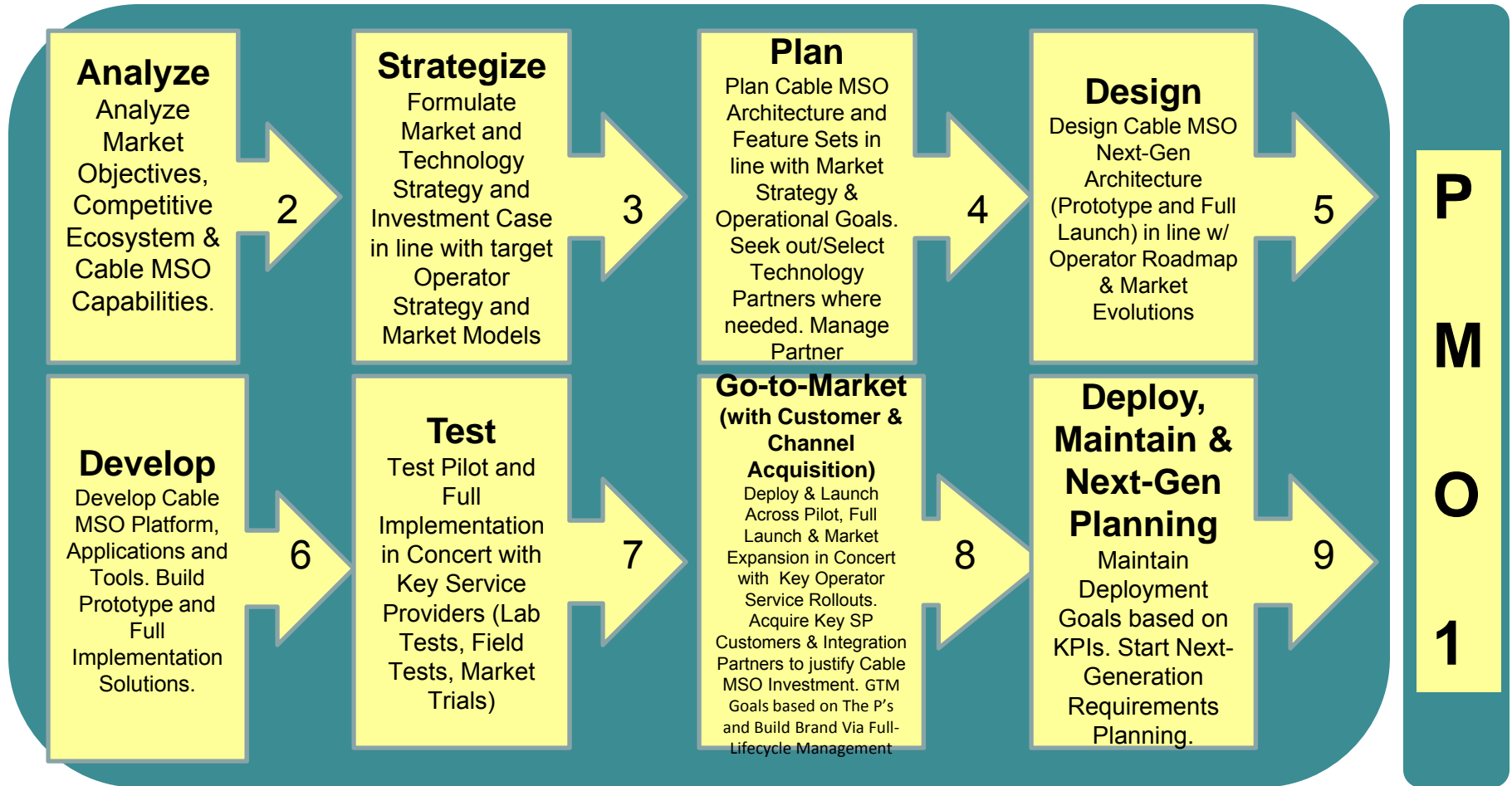
**End-to-End Lifecycle Phases for Successful Cable MSO Investments**

# Go-to-Market

## Sample Cable MSO Vendor Client

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**End-to-End Lifecycle Phases for Successful Cable MSO  
Development and Deployment in Alignment w/Market Strategy**

# Cable MSO Vendor Solutions

## Build your Brand & Portfolio

- **Our 3 Pronged Solution Approach**

1. Launch New Brand (Cable MSO Solutions Portfolio) and Reposition Existing Brand Solutions Portfolio
2. Assess and Acquire Key Service Provider Customers
3. Assess and Acquire Best-Fit Channel Partners

1. **Launch New Brand and Reposition Existing Brand**

- Develop and Execute a Full-Lifecycle Approach
- Launched New Brand and Repositioned Existing Brand will Support Key Customers and Best-Fit Channel Partner Acquisitions

2. **Assess and Acquire Key End-Customers**

- Best Applied with Large Service Providers
- Best Applied with Emerging Operators

3. **Assess and Acquire Best-Fit Channel Partners**

- Best Applied with Strong Systems Channel Partners

# Global-i Consulting

## Our Capabilities

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Global-i is a **Consulting, Contracting, Outsourcing and Technology** Services Solution Provider. Created to Deliver Innovation and Achievement, Global-i **Collaborates with Primarily Communications and IT Clients** to Help them become Value-Driven Entities. Global-i's **"Value-Driven Solutions Delivered"** Service Philosophy relies on our Expertise in **End-to-End Lifecycle and Implementation Consulting, Know-how of Technology Markets, Deep Understanding of Legacy/Current/ Emerging Technologies and Outsourcing Models** to help Clients Achieve **"Value-Driven Solutions"** so they in turn can **Deliver by Consistently Growing Values** for their Customers and all Stakeholders.

# Global-i Consulting

## What We Do

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Using our services we help clients around the world:

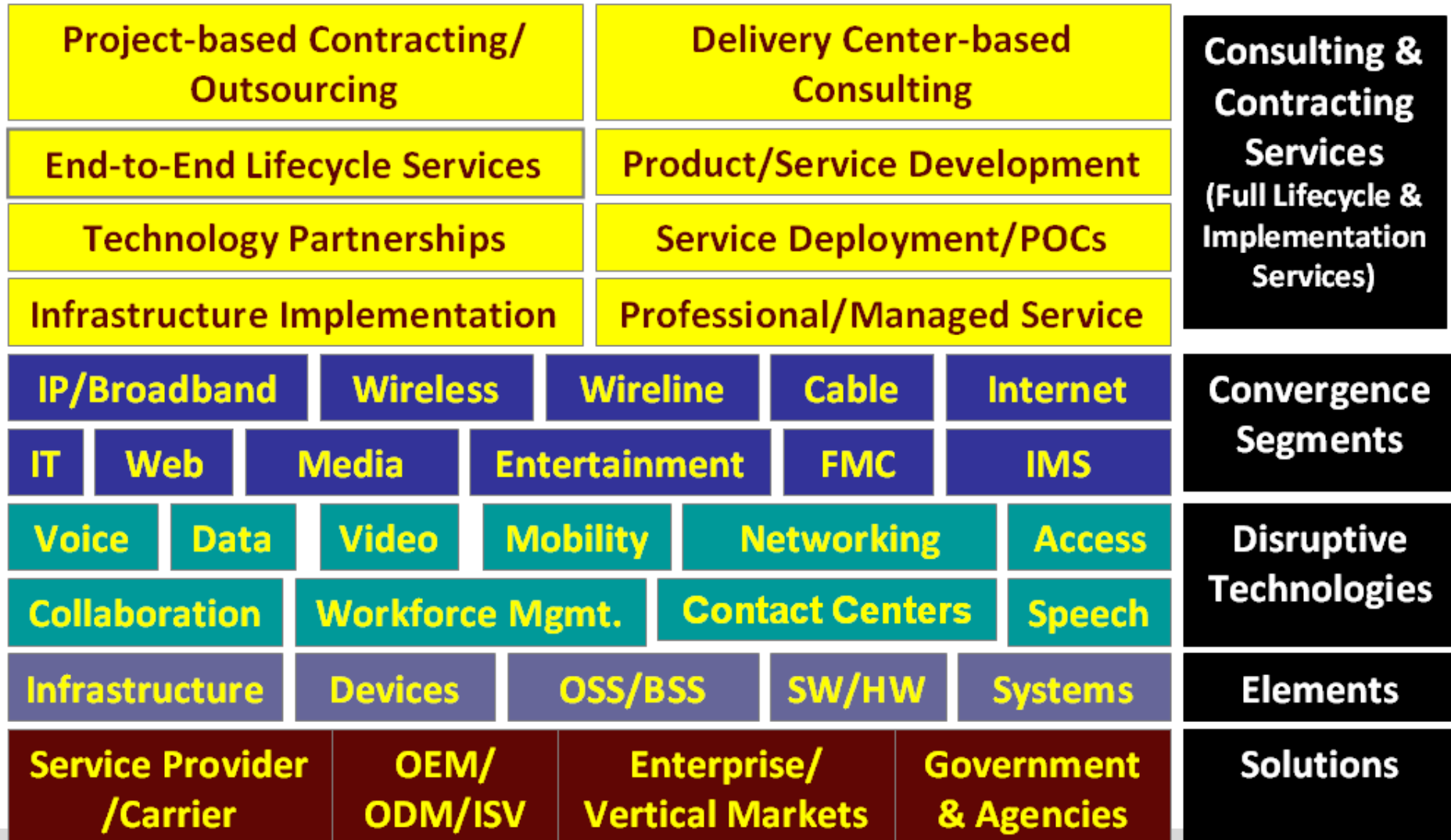
- Evaluate New Markets, Technologies and Systems
- Create Prototypes, Pilots and Proof-of-Concepts
- Develop and Launch New Products and Services
- Market Expansion of New and Existing Services
- Reposition and Sustain Existing Offerings
- Implement New Deployments/Major Upgrades of Systems and Infrastructure
- Improve Operational Excellence from Existing Services and Systems
- Create the Best-of-Breed Customers and Partners

# Global-i Capabilities

## Our Approach

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# Cable MSO Practice

## Our Practice Focus

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### Our Focus

Consulting ■ Outsourcing ■ Technology

### Our Solutions Expertise

Cable MSO Solutions, Service Provider Operations (Network, Converged Applications, Devices, Device Platforms, Application Partners, Sales Channels, Subscriber Management, Business Process, Strategy, Product Development, Service Deployment, Revenue Management), IT Services, Next-Gen Solutions

### Our Services Under the Cable MSO Consulting Practice

#### Lifecycle Drive Services

(Full-Lifecycle Services)

**IT Assessment Services** (IT Assessments, Business, Business Process & Systems Analysis)

**Re-Strat Service**  
(Strategy and POCs)

**Product Dev Services**  
(Product Planning, Architecture/Design, Development)

**LEAP Services**  
(Lab, Engineering and Partner Services)

**Go-To-Market Services**  
(Launch Planning & Service Launch)

**D2IS Services**  
(Deployment, Implementation, Integration)

**IntelScape Services**  
(Thought-Leadership Services, Market Intelligence, Business Management)

**MarketExpand Services**  
(Marketing Services, Marketing Campaigns, Customer Acquisition, Channel Acquisition Services)

**ChannelPartner Services**  
(Sales Engineering, Pre-Sales, Business Development Channel Marketing Services)

**Global-i LABS**  
(OEM/ISV/SP Technology Research & Strategy, Technology Partnerships, Strategic Alliances, Service Partnerships, Business Processes)

# Cable MSO Practice Practice Website

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Evolving Marketplace**

## Cable MSO (Multi- Service Operator) Practice

Global-i, Inc. ([www.globaliconsulting.com](http://www.globaliconsulting.com)) is a technology and business consulting, integration and contracting services company based in Northern Virginia serving our clients nationally and globally.





We are focused on meeting **Full-Lifecycle Consulting and Contracting Services needs** (including Full-Lifecycle Services, Product Development & Management, Proof-of-Concept Services, Customer and Partner Assessments, Pre-Sales & Proposals, Solutions & Sales Engineering, Channel Marketing Support, Training, Solution Demonstration, Acquisition Services, etc.) of

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# Managed Services

## Q&A

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- 15 Minutes Open Forum
- We will try to answer as many questions in the time available
- Remaining Questions will be posted on our site for later viewing
- This presentation will also be available on our site for later viewing
- To discuss our Consulting Services and Solutions further send an email to [CableMSOPractice@globaliconsulting.com](mailto:CableMSOPractice@globaliconsulting.com) or call us at 703-574-2917 and 1-888-931-1117



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