

# Project Description

## Verizon Calling with Microsoft Teams

### Overview

Verizon Calling with Microsoft Teams (VCMT) is a service offering that combines design, build, and delivery of a Microsoft Teams Phone System with a robust Session Border Controller (SBC) solution creating a Business Communications solution. The two primary components of VCMT are:

Verizon Professional Services:	Verizon conducts a Unified Communications project with Customer and takes the lead in hosting collaborative workshops, design, integration, and service delivery at both an enterprise and location/end-user level.
Verizon SBCaaS:	<p>Session Border Controller as a Service (SBCaaS) delivers Microsoft-certified, fully managed, virtual, geo-redundant SBCs hosted on Verizon's Hosted Network Services (HNS) platform.</p> <p>SBCaaS integrates securely with Microsoft Teams Phone System via the internet and can integrate securely with Verizon's SIP Trunking via Verizon's Private IP network. Additionally, SBCaaS allows for multiple SIP connections and third party carrier SIP Trunking.</p>

If Customer purchases (separately) Verizon's SIP Trunking service with VCMT, Verizon will deliver an Enterprise-grade solution providing maximum flexibility:

- Flexibility in network functions and multiple vendor services at remote and cloud locations.
- Modeled as an Operating expense to reduce initial Capital costs typically associated with a communications project.
- Automation and orchestration to reduce service provisioning timeframes.
- Rapid service scaling reducing the need for re-investment in physical devices.
- A seamless global solution available in the Americas, APAC, and EMEA.

### How it works – Telephony Configuration

Customer may use Microsoft Teams Phone System as its Unified Communications voice solution for their Enterprise or selected locations by integrating Microsoft Teams with SBCaaS using Direct Routing. Direct Routing uses public IP addresses and TLS certificates (Customer-provided) for secure Internet connectivity. Voice traffic destined for the PSTN is then securely routed by SBCaaS over Verizon's Private IP network to Verizon's SIP Trunking service.

Verizon's Professional Services included with the VCMT agreement provides engineering services to configure direct routing, SBCaaS connectivity to MS Teams Phone System & the PSTN, and connection validation. Also included is user enablement within Microsoft Teams Phone System for PSTN calling with dial plan configuration, number translations, and user features (as scoped). Once configured, the solution will enable PSTN calling for users and devices registered with MS Teams Phone System.

## **Implementation Services:**

VCMT processes and roles/responsibilities in this Professional Services engagement have been streamlined to be efficient and scalable. The implementation of VCMT is highly collaborative between Customer's organizations and Verizon. Collaboration is the key to a successful project.

The sections below describe Verizon's standard delivery model (Stakeholders, System Build, and Site Activation Cadence). This model can be used for planning purposes. Every project begins with this standard delivery model and is customized under the direction of the Verizon Activation Coordinator based on the design and Customer's requirements.

### **Implementation Stakeholders:**

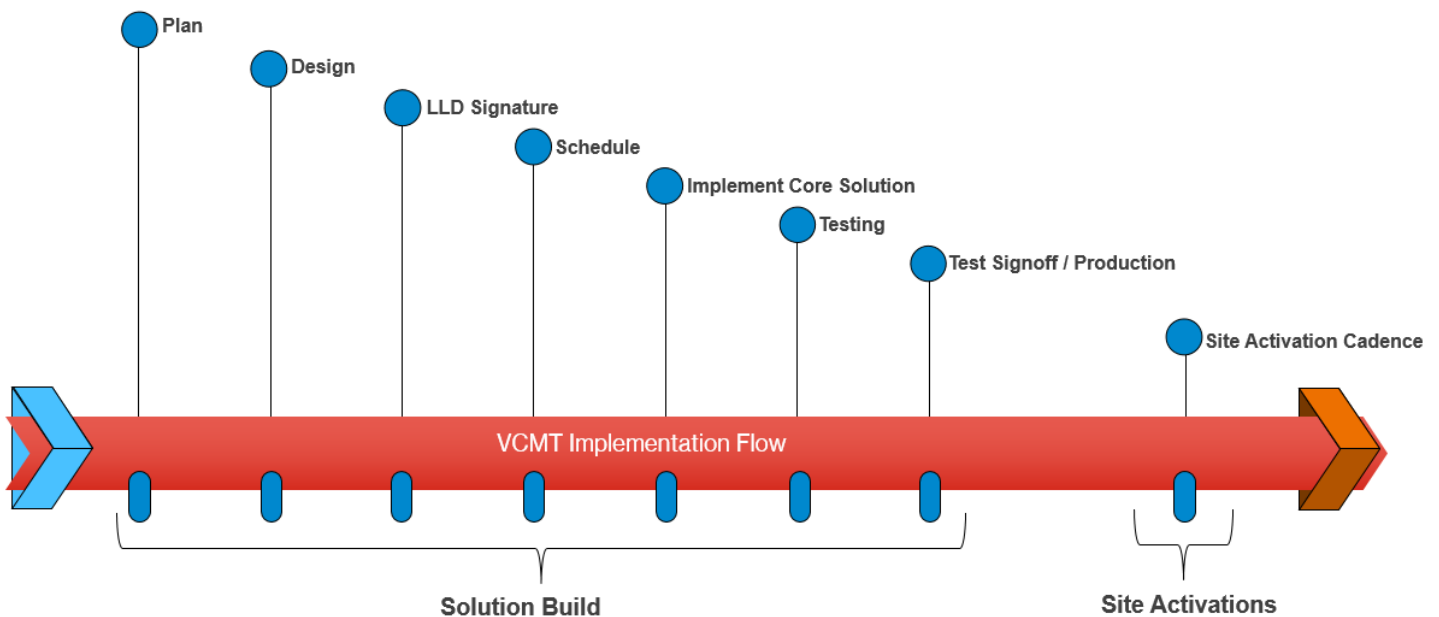
- **Verizon Activation Coordinator:** This person is the lead VCMT coordinator who has authority to act on Verizon's behalf on all aspects of the VCMT portion of the project. They coordinate and track all VCMT activities (Customer and Verizon) to implement the contracted service. This person manages deliverables, team communications, scheduling, training, staging, data collection coordination, activation, and Day 1 support.
- **Verizon Technical Design Lead (Microsoft):** This person is Verizon's lead Microsoft engineer who is responsible for technical aspects of service delivery related to Microsoft. They are responsible for documenting the low level (detailed) solution, managing the configuration of the Microsoft environment, location configuration (devices, apps and users), location activation, and providing Day 1 support.
- **Verizon Technical Design Lead (SBCaaS):** This person is Verizon's lead SBC engineer who is responsible for technical aspects of service delivery related to SBCaaS. They are responsible for documenting the low level (detailed) solution, building & configuring the SBCaaS environment, activation, and providing Day 1 support.
- **Customer Project Lead:** This person is designated as the single point of contact by Customer to make all decisions and give all approvals that Verizon may need. This person is also responsible for providing Verizon with information, data, access, and support necessary to implement the contracted service. This role is typically filled by a project manager, technical, or business leader.

## Standard Timeline:

Verizon's standard delivery interval for the core VCMT System Build is 60 business days (12 weeks). This is a general guideline and fluctuates depending on the size and scope of Customer's design. The diagram below outlines two distinct project phases: System Build and Site Activations.

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## VCMT Implementation Flow



The System Build phase begins with kickoff meetings and concludes with the core VCMT system (without sites/users/devices) moved into production:

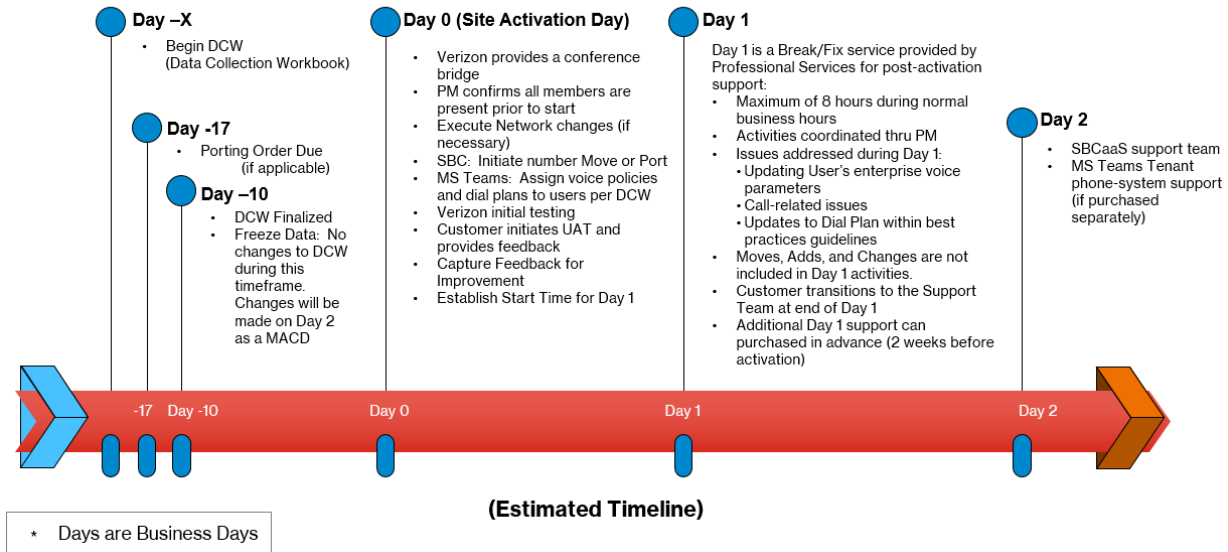
- **Plan:** Once contracts and orders have been fully executed and accepted, the Verizon project team is assigned and the Verizon Coordinator initiates internal and external kickoff meetings. This is a time for both Customer and Verizon teams to meet each other, begin schedule planning, and assigning initial tasks.
- **Design:** A series of workshops (led by the Verizon technical leads) take place with Customer to determine the VCMT (Microsoft, SBCaaS, and Intrado) detailed designs. Various topics are discussed including services, features, applications, dial plan, disaster recovery, E911, security, VOIP scenarios, and other relevant information needed to configure VCMT. In addition, initial site discussions take place and third party resources (site services, cutover support, and discovery

support) are planned (if applicable). Information discovered in the Design phase is documented in the Low Level Design (LLD). The LLD is the master document containing engineering-level detail and is used throughout the implementation. This document is version controlled, requiring both Customer's and Verizon's signature for approval and changes. Customer and Verizon collaboratively work on this document until completion.

- LLD Signature: Ratification of the LLD is required before the project can proceed.
- Schedule: Upon completion of the LLD, the remainder of the System Build phase can be planned and scheduled. More precise planning of Site Activations can begin now that the LLD has been completed.
- Implement Enterprise Solution: Verizon builds & configures the SBCaaS solution and integrates with MS Teams Phone System using direct routing. Initial dial plans and customizations take place and initial testing is performed. Any additional Enterprise-level integrations (if applicable) are completed. Verizon engineers work with Customer to test a small number of devices. Data Collection begins for the initial site activations.
- Testing: Customer and Verizon collaboratively participate in the Operational Readiness Test (ORT). The ORT is a checklist-driven testing procedure that validates system functionality and documented LLD features. Upon successful results, Customer and Verizon sign off and the system is designated in Production.

The Site Activation phase is an iterative process per location where activities follow this high-level cycle: Document, Build, and Activate. During this phase, the Project Team is continually documenting lessons learned and improving the activation for subsequent locations.

# Site Activation Cadence



- Day -X: In preparation for a site activation, Verizon will work with Customer to complete one Data Collection Workbook (DCW) per site. Customer is responsible for completing and finalizing the DCWs under the guidance of the Verizon engineering team. VCMT projects typically budget 10 business days (2 weeks) to complete, review, and finalize each workbook. However; this time frame can fluctuate up or down based on the complexity of the location. For example, simple locations using only Soft Clients take much less time to document than a location with hundreds of devices, gateways, hunt groups, and other data points needing to be documented and replicated in Microsoft Teams. During collection, Customer and Verizon will jointly review the DCW and identify gaps. DCW activity ends on Day -10 with both Customer's and Verizon's approval to finalize the DCW and handoff to Engineering to build. Multiple DCWs can be in process at the same time.
- Day -17: If porting numbers from another carrier, the standard interval is 17 days.
- Day -10: Data Collection Workbooks must be finalized by both Customer and Verizon, then transmitted to Verizon engineers 10 business days before the Site Activation (Day 0). Our engineering team requires 10 business days to build, test, and troubleshoot a location, necessitating a hard deadline for DCWs.
- Day 0: Site Activation Day, all participants are required on a conference bridge before activities can begin. LAN and WAN changes (if necessary) are initiated and number porting begins. Verizon engineers will configure the MS Teams users and devices for Direct Routing, activate features, and assign DID numbers. After

completion of porting and Microsoft changes, User Acceptance Testing is initiated by Customer to validate results. Before releasing the team, the Implementation Coordinator and Customer agrees on the start time for Day 1 activities.

- Day 1: Day 1 is an 8 hour window on the first business day after each site activation for a Break/Fix service by the Implementation team. The purpose is to fix any misconfigured users, devices, or features that were properly documented in the Low Level Design (LLD) and the Data Collection Workbook (DCW). Activities for Day 1 are coordinated thru the Implementation Coordinator.
- Day 2: After the completion of Day 1, the newly-activated site transitions away from the Implementation Team to the Verizon Service Team for SBCaaS issues. Customer has the option of purchasing Verizon Professional Services for Microsoft tenant issues; this is considered out of scope for VCMT.

## **Selected Implementation Topics (additional details):**

### **Workshop(s):**

Verizon will conduct remote technical workshop(s) with Customer for the purposes of defining and documenting the Low Level Design. Topics included in the workshop(s) include but are not limited to:

- Network Architecture
- MS Teams voice readiness
- Migration approach
- General delivery planning
- Business requirements, expectations, and success criteria
- Technical requirements for MS Teams Phone System and Direct Routing
- User profiles
- Dial Plan & Call Routing design
- Present Network & Security requirements to Customer's IT team
- Discuss/Validate user acceptance testing plan

### **Remote Network Review:**

Verizon and Customer contacts (local and administrative) will perform a remote network review of the Sites including connectivity to Microsoft 365, firewall and proxy capability, and quality of service requirements to make recommendations for remediation where necessary ("Remediation Report"). The review will be based on Verizon-recommended and Microsoft-provided tools with a focus on end-user locations

## **SBCaaS configuration:**

Verizon will remotely build, configure, and validate the core SBCaaS elements required to support VCMT based on the specifications in the LLD:

- Configure dial plan for off-net calling only
- Validate & install Customer-provided public certificates for encryption between SBC's and Customer's MS Teams tenant
- Ensure Customer creates the required DNS A records for SBCaaS
- Validate Connectivity
- Enable encryption for calls on the interface toward MS Teams
- Configure QoS marking on SBC
- Configure management options per VCMT guidelines
- Pair SBCaaS with Customer's MS Teams tenant.

## **Microsoft Teams tenant configuration:**

Verizon will configure Customer's Microsoft Teams tenant for enterprise voice routing:

- PSTN Gateway configuration, one Dial Plan per location with no more than 50 normalization rules per dial plan (per Microsoft best practices), PSTN usages, online voice routes, and voice policies for Users
- Provision location and emergency location addresses/policies (aka standard static 911 for US-based locations or in-country emergency services configuration for non-US based)
- Complete additional E911 configuration as defined by Intrado for the US region.
- Assign voice policies and dial plan to Customer-provided Users (via complete and accurate Data Collection Workbooks)
- Configure QoS settings for the MS Teams tenant direct routing if not already configured. \*\* Customer is responsible for all network, firewall, endpoint, and routing QoS unless otherwise contracted with Verizon.
- Pair MS Teams tenant with SBCaaS
- Complete test plan and verify functionality