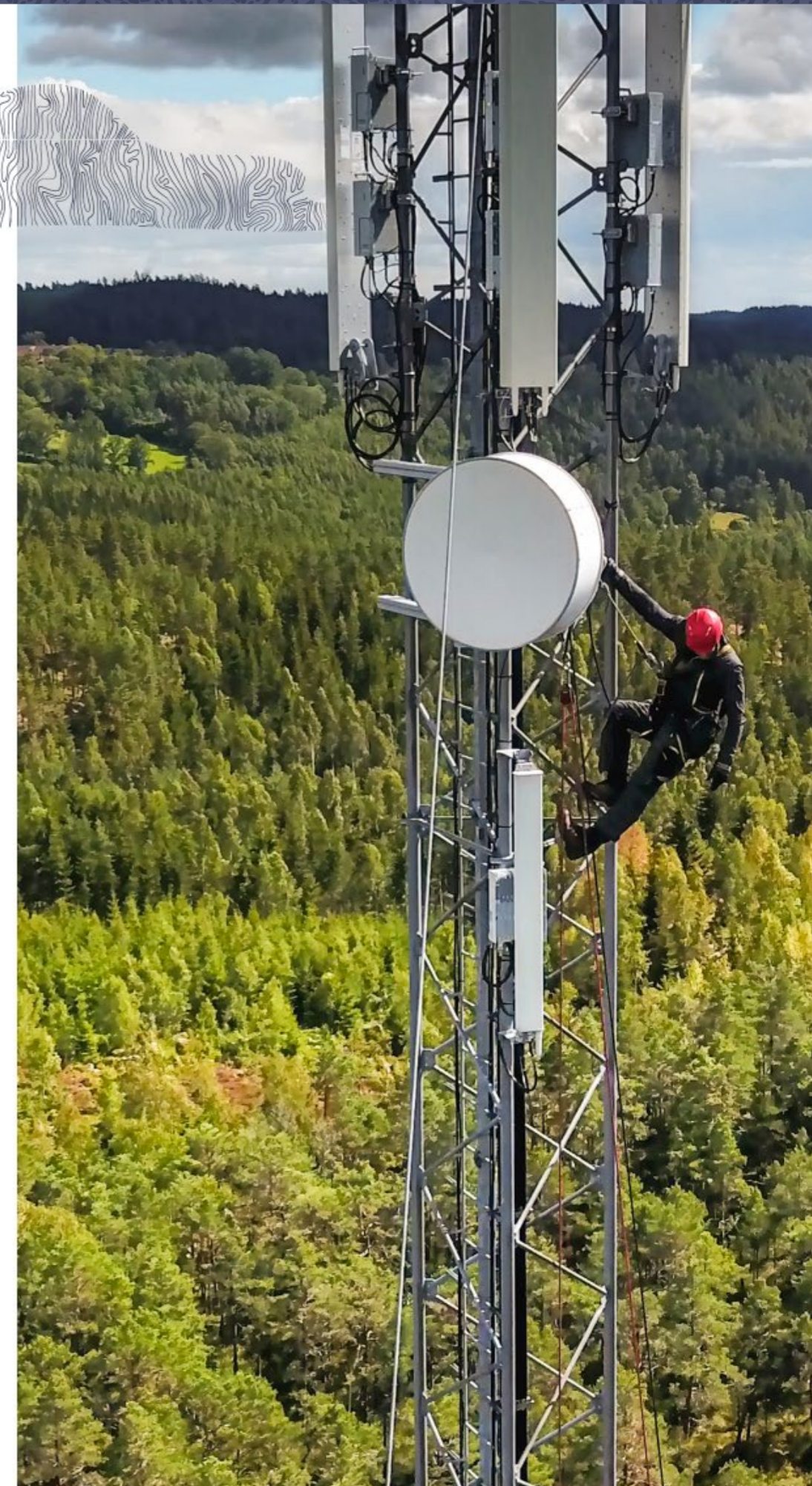ORACLE
Communications

Five steps to Removing Communications Infrastructure Cost and Complexity

A guide to streamlining operations and accelerating innovation

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The Problem: Communications cost and complexity

As digital transformation disrupts entire industries and organizations, enterprise communications managers find themselves under constant pressure to accelerate the pace of innovation. Digital transformation projects are demanding new communications services to help improve customer experiences, increase enterprise reach and boost organizational productivity. Business managers are demanding flexible, feature-rich collaboration tools. They want to modernize the contact center and mobilize the workforce, but legacy enterprise communications networks can stand in the way of progress.

Many organizations are hamstrung by their previous investments. Over time, they've assembled an array of communications services and systems that have become complex and fragile. For most businesses, a total rip-and-replace strategy is simply not a viable option. There has to be a better way.

Streamline operations and accelerate innovation

This E-Book explains how to create a best of breed vendor-agnostic network that efficiently supports contemporary collaboration capabilities, while protecting previous technology investments. Intended for enterprise telephony, unified communications (UC) and contact center network planners and managers, this easy-to-follow guide provides a simple five step blueprint for transforming enterprise communications infrastructure.

You will learn how to:

- **Eliminate complexity and accelerate the pace of innovation**
- **Achieve cloud agility, economics and elasticity**
- **Boost user satisfaction**
- **Mitigate risks**
- **Ensure high availability**

Juggle priorities and mitigate risk

If you are like most network professionals, you are busy juggling a variety of priorities—mobility initiatives, next-gen contact center programs, communications-enabled application projects—trying to respond to the needs of the business as quickly as you can while the pace of change is rapidly accelerating.

But at the same time, you need to:

- **Mitigate security and compliance risks**
- **Control staffing and infrastructure costs**
- **Ensure high availability and service quality**

At times it can all feel a bit overwhelming. Many businesses are constrained by fractured enterprise communications networks—independent technology silos originally built to support individual sites, processes or lines of business. Many corporate networks are hanging together by a thread, stitched together over the years through changing initiatives compounded by mergers and acquisitions.

Legacy communications and innovation

Disjointed on-premise multi-vendor communications networks are inherently costly and complex to maintain and extend. As organizations adopt various cloud services, it only adds to the complexity and enterprises start to lose control and visibility into the entirety of their communications.

Each silo has its own feature set and security requirements. Each supports different communications protocols and each has its own administrative interfaces. Introducing new communications services across the enterprise —integrating different systems, implementing common policies, troubleshooting problems— is fraught with challenges. And to make matters worse, many organizations still rely on communications platforms that were originally designed to support stationary office workers and desk phones.

The Blueprint: Modernize enterprise communications

Decommissioning legacy communications systems and creating a new network from scratch is a luxury most IT planners simply can't afford. However, it is still necessary for your network to be agile and extensible.

What if there was a way to modernize your network infrastructure while preserving your existing assets? Use our five-step blueprint to create a vendor-neutral architecture that delivers uniform communications and collaboration capabilities across your existing infrastructure. This plan will help you centralize control, eliminate inefficiencies and spur innovation.
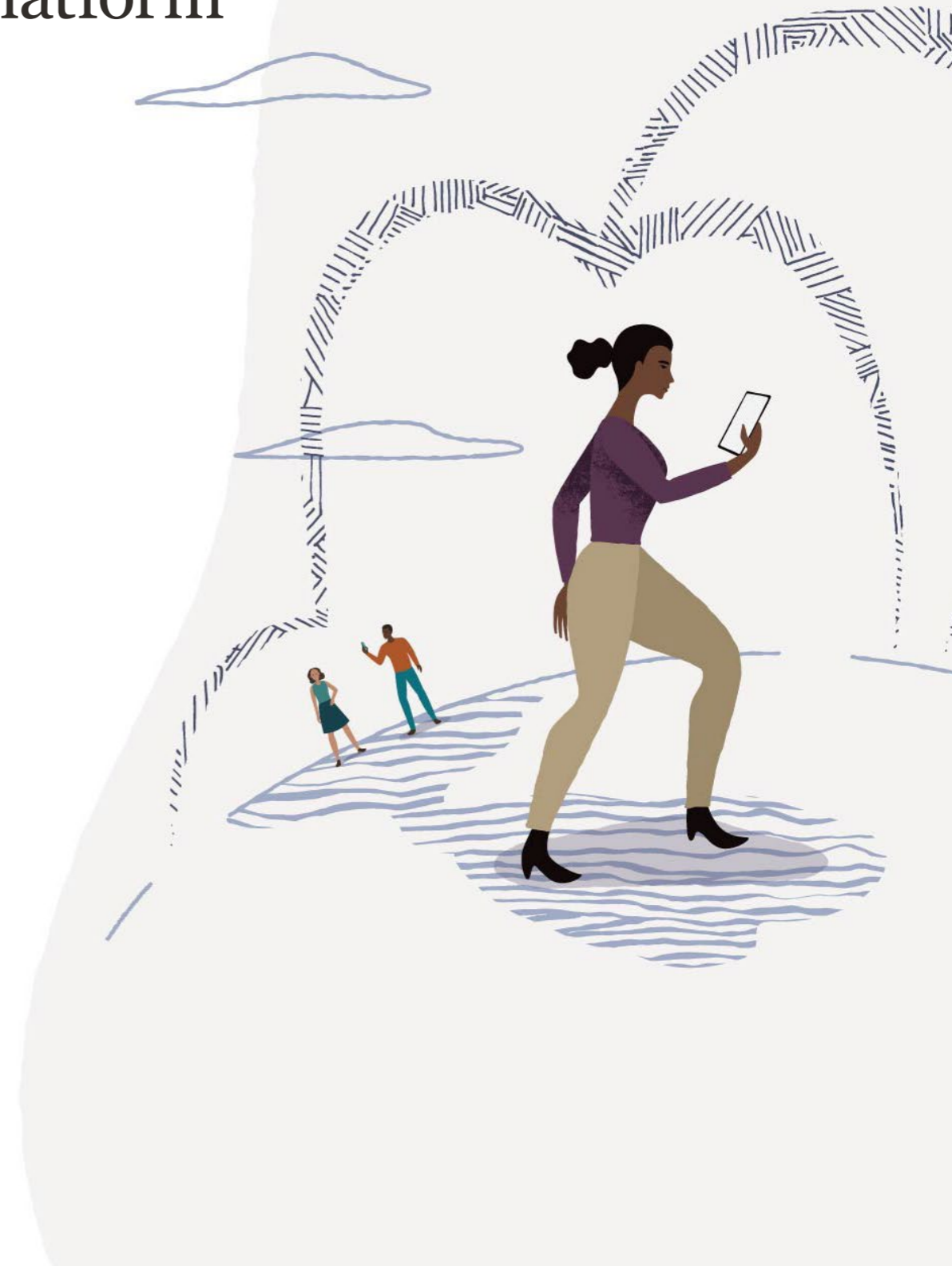
1 Migrate your communications to the cloud with a centralized control platform

Introduce a vendor-neutral architecture with a centralized control layer to eliminate complexity and streamline operations.

By centralizing session control, dial plan management and policy enforcement functions, you can eliminate inefficiencies, improve service agility and ensure consistent services and seamless user experiences across the enterprise. This allows easy migration and interoperability of cloud services, SIP trunk providers and on-premise communications solutions.

Bring Your Own Carrier (BYOC), and direct routing all describe solutions to connect cloud-based communications services such as Genesys Cloud, Microsoft Teams and Zoom to your communications service provider for PSTN connectivity. In addition to providing this vital interoperability function, this model also allows you to maintain control of other essential communications services. You can keep control of your dial plan and interconnect traditional phones and IP-PBXes. It also further enhances your agility by extending your ability to enable best of breed third-party applications and services for authentication, call recording, compliance, security, transcription, you name it.

Migrate your communications to the cloud with a centralized control platform *(cont'd)*

Best-of-breed enterprise session border controllers (E-SBCs) enable you to seamlessly migrate your communications to the cloud and solve the multi-vendor interoperability challenges that arise from deploying multiple solutions, transforming independent islands of technology into a cohesive enterprise communications network. As a security device deployed at the enterprise edge, it also allows direct connection to new and innovative cloud services and access to the remote workforce.

Once you've deployed a session border controller, you can swap out legacy platforms or introduce new services at your own pace with minimal disruption. You can decommission outdated and underused services and systems over time to get out of expensive subscription plans and maintenance contracts. Or you can quickly deliver newer capabilities like Unified Communications as a Service (UCaaS), Contact Center as a Service (CCaaS), video conferencing, or SMS messaging to existing platforms, extending previous investments.

2 Deploy a software-based architecture

Implement virtualized and cloud-based solutions to provide flexibility, aid agility and contain costs

While upgrading network infrastructure, investigate taking advantage of virtualization to enable elasticity, enhance scalability and improve economics. The latest enterprise communications solutions are available as software-based applications—virtual appliances—that run in public cloud infrastructure or on industry-standard servers, operating systems and hypervisors in your data center.

With virtual and cloud-based deployments you can avoid overprovisioning and tightly align operating expenses with usage. They also help you avoid hardware vendor lock-in and accelerate time-to-market. Cloud-based deployments also alleviate the responsibilities of physical management.

For maximum flexibility be sure to choose solutions that support a wide range of hypervisors & public clouds:

HYPERVISORS	PUBLIC CLOUDS
Microsoft Hyper-V	Amazon Web Services (AWS)
KVM	Google Cloud Platform
Oracle VM	Microsoft Azure
VMware ESXi	Oracle Cloud Infrastructure
Xen	

3 Centralize your management and monitoring

Introduce unified management to simplify monitoring and troubleshooting

As you're tying together your multi-vendor network, introduce an end-to-end IP communications management platform to efficiently monitor service quality and troubleshoot problems across multiple vendors and service providers.

While many newly adopted services are delivered over the Internet, ultimately customers and employees will hold you accountable for quality or security issues that arise. You need to have full visibility and real-time performance metrics to be in control and assure predictable Quality of Experience (QoE).

Unified monitoring platforms eliminate swivel-chair management and finger-pointing, helping you accelerate problem detection and resolution, reduce operations expenses and improve user satisfaction.

A Nemertes Research report revealed that businesses using end-to-end management platforms enjoy a 93% reduction in mean time to repair, a 35% reduction in human capital costs, and as much as a 627% return on investment over a three-year period.

96% reduction in mean time to repair

35% reduction in human capital costs

627% return on investment

4 Boost security and compliance

Introduce strong border control and policy enforcement mechanisms to safeguard against malicious attacks, fraud and other risks.

Best of breed enterprise session border controllers (E-SBCs) support call admission controls, rate limiting and redirection capabilities to ensure service levels and compliance with regulations such as emergency calling and do-not-call lists. They also support DTMF suppression and other capabilities required for Payment Card Industry (PCI) compliance.

Look for an E-SBC that supports standards-based trunk-side recording (SIPREC) to simplify compliance with government regulations, data sovereignty and/or corporate policies. In many industries, certain customer interactions such as financial transactions must be recorded and archived. Connecting a call recording server using traditional ACD and PBX interfaces can be costly and difficult to scale and tying your recording into you cloud communications further siloes your data. A centralized approach helps eliminate expense and complexity.

Boost security and compliance *(cont'd)*

Leading E-SBCs also offer extensive security features to protect against telephony denial of service attacks, call spoofing, account reconnaissance, eavesdropping, hijacking and other threats. If you plan to encrypt traffic, look for an E-SBC that supports bullet-proof cryptography standards like Federal Information Processing Standards (FIPS) 140-2. The U.S. Department of Defense and other security-conscious organizations use FIPS 140-2 because it is virtually unbreakable.

As E-SBCs evolve from appliance to cloud, choose the right partner that will help you in your journey to cloud regardless of where you are in your digital transformation. Cloud expertise and capabilities will only become more critical to your organization's communications, so choose a trusted advisor for that journey. Leading solutions already leverage the cloud for additional capabilities such as caller authentication and management as well as fraud detection and prevention.

# 5 Layer in resiliency to ensure high service availability

Implement a fully redundant network, with no single point of failure, to ensure continuous availability in the event of hardware problems, service provider outages or connectivity failures.

Consider distributing session border controllers and other critical network elements across data centers or cloud regions for disaster recovery and business continuity. Install redundant links, trunks and service providers in each for ultimate resiliency.

Look for E-SBCs that support advanced capabilities like:

- **Stateful failover**

- **Remote site survivability**

- **Registration caching**

- **Quality of Service (QoS) based routing**

These all help to maximize service availability and quality.
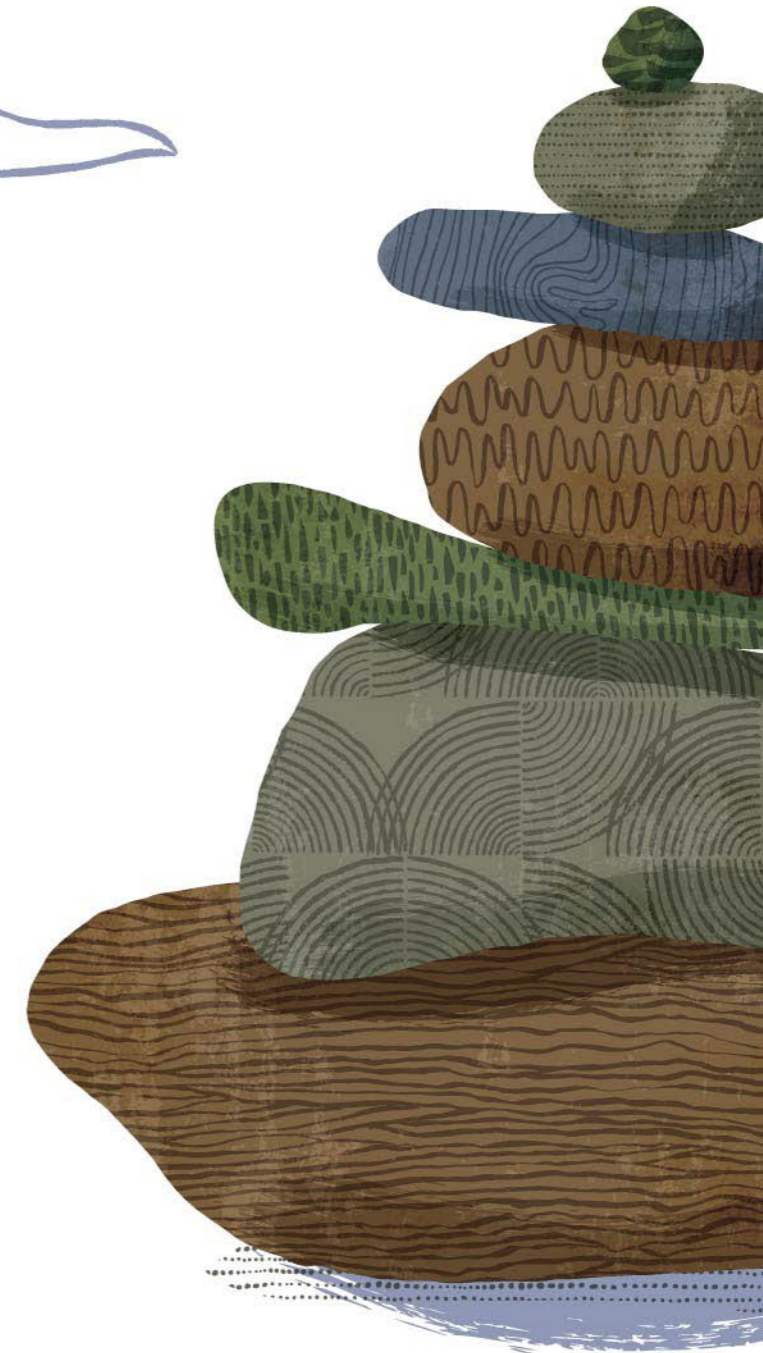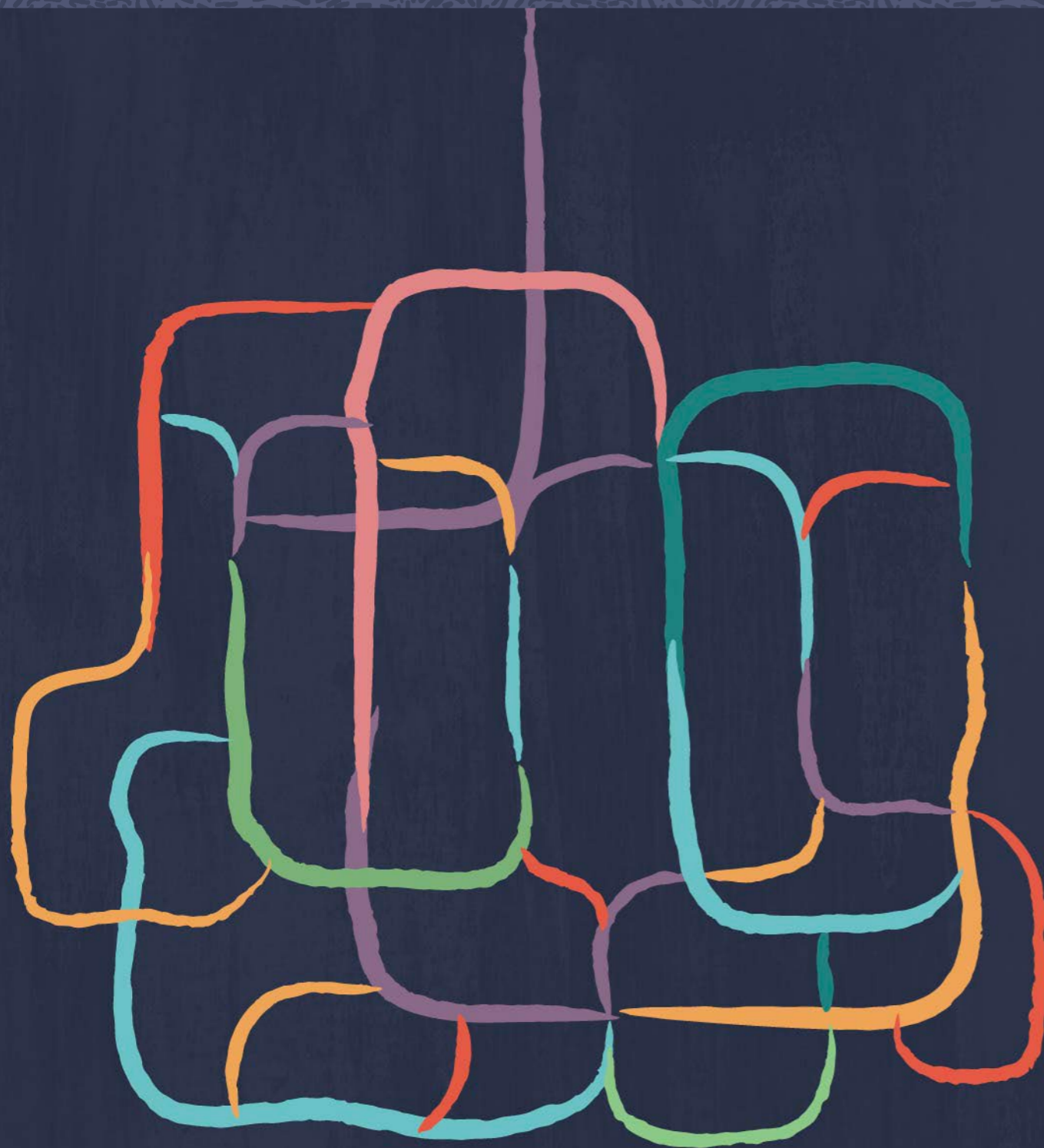
# The Endgame: A more agile and extensible network

By following our five-step blueprint you'll end up with a simpler, more flexible network that lets you respond to the needs of the business more quickly and cost-effectively. You'll take on new digital transformation projects with confidence, giving users the rich collaboration tools they need to succeed in today's hyperconnected world.

A next-generation, vendor-neutral enterprise communications network will help you:

1. **Accelerate the pace of innovation by eliminating complexity and removing interoperability barriers—don't get stuck in a technology cul-de-sac**

2. **Attain cloud economics and scalability**

3. **Ensure superior user experiences and high service quality with network resiliency and unified management**

4. **Mitigate risks by providing secure and compliant communications**

Accelerate your success with Oracle

Oracle has the complete set of solutions and professional services you need to transform your legacy communications environment into a platform for innovation while supporting your journey to cloud. We can help you build a more agile and extensible network that delivers state-of-the-art communications and collaboration capabilities, while protecting previous investments. You can take full advantage of all the benefits of modern IP communications infrastructure—modern collaboration services, better economics, greater choice and increased service agility—without sacrificing reliability, security or service quality.
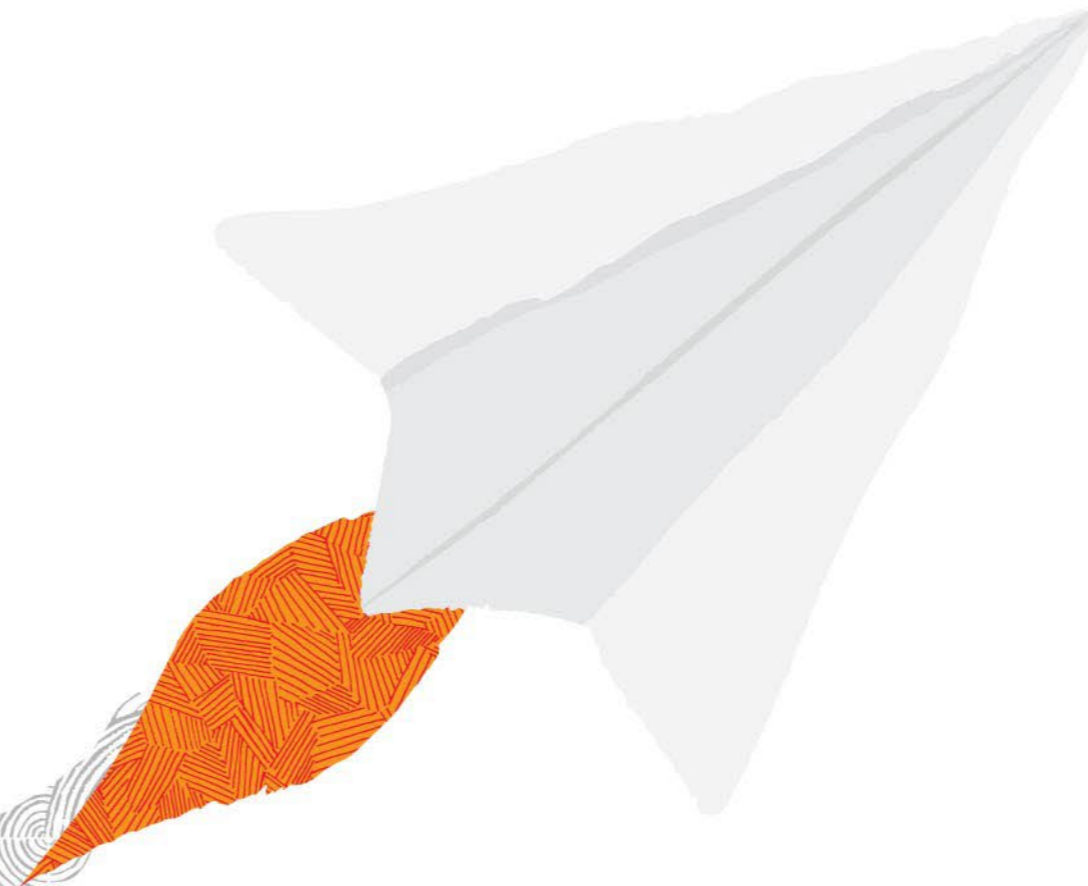
The Oracle Enterprise Communications portfolio includes:

Oracle Enterprise Session Border Controller

A real-time communications services controller that secures connections between trusted and untrusted networks, including SIP trunks, cloud services and your on-premise infrastructure. Oracle E-SBC provides choice and flexibility with various deployment options from purpose built appliance to fully software based in your private or public cloud. Oracle E-SBCs protect against security threats, normalize protocol differences and adapt to variations in media encoding to eliminate interoperability and interworking barriers. They also support and scale SIPREC for standards-based trunk-side recording.

Oracle Enterprise Communications Broker (ECB)

A session manager that acts as central session control layer connecting dissimilar network elements (e.g. IP-PBXs, UC servers, IVRs, ACDs, etc.) and core service components (e.g. AAA servers). ECB dynamically polices and routes sessions based on policy to ensure compliance, enforce SLAs and prevent fraud.

Oracle Enterprise Operations Monitor (EOM)

A unified VoIP & UC monitoring and analysis tool that simplifies multi-vendor network management. EOM provides end-to-end visibility into key performance and service quality metrics, helping support teams improve customer satisfaction while reducing operations expenses and mean time to recovery.

Oracle Communications Security Shield Cloud (OCSSC)

A cloud-based security solution for enterprise telephony. OCSSC provides full visibility into your communications network, dynamic risk assessment and threat detection of every call and automatic enforcement of security policies to throttle and deny unauthorized use.

The Oracle Enterprise Communications portfolio *(cont'd)*
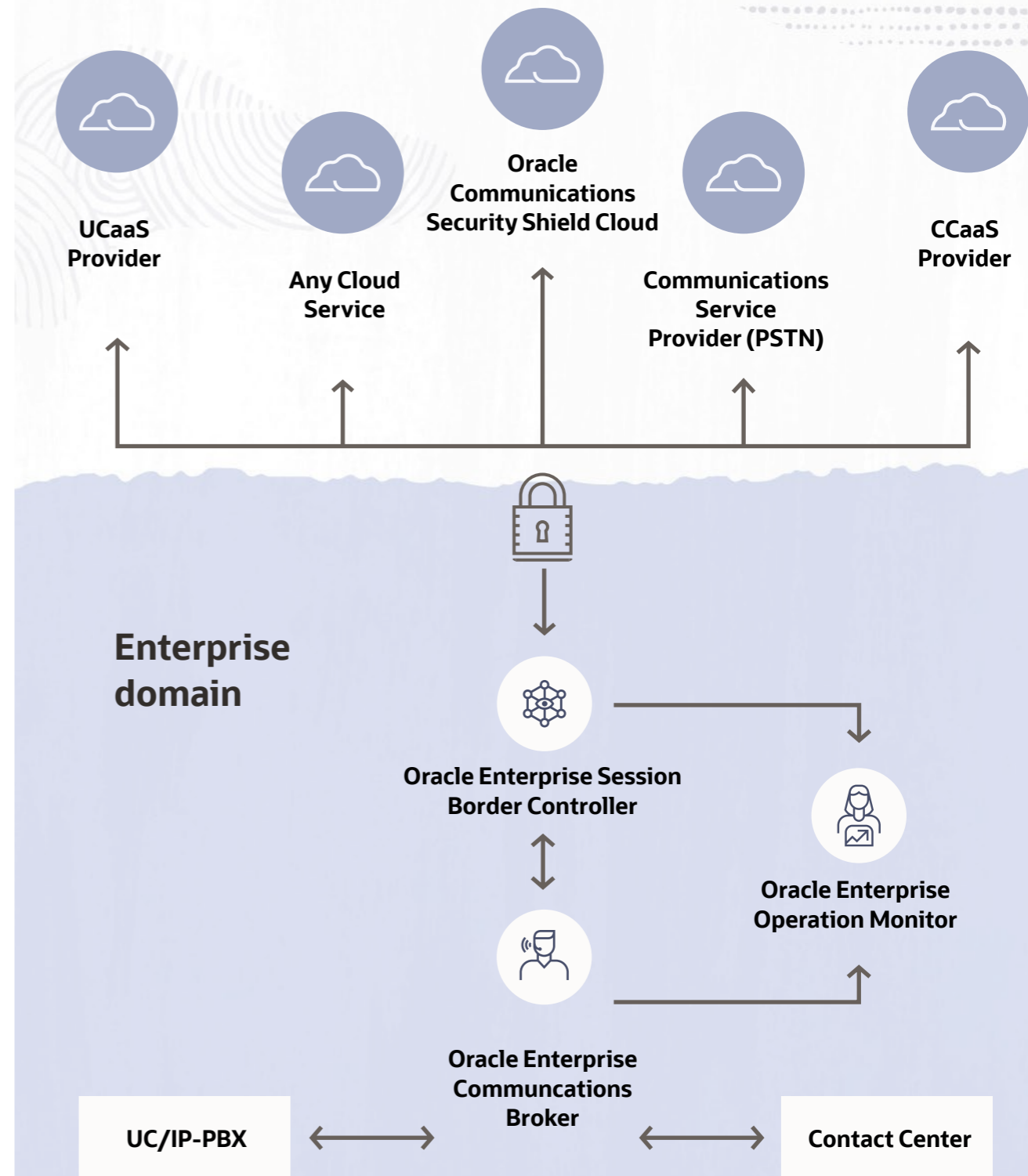
Oracle SD-WAN

A secure, self-correcting, failsafe network that provides the highest QoE while completely transport agnostic. Oracle is the only provider that secures network and application environments with Cloud-to-Edge infrastructure and optimal application performance.

Oracle Session Delivery Management Cloud (OSDMC)

A single pane of glass view across the Oracle Communications Session Delivery product portfolio. OSDMC provides a simple, more insightful way to manage your Oracle Communications session delivery products. Through integration with monitoring solutions such as EOM, OSMDC provides users with essential monitoring of key performance indicators (KPIs) and call traffic details.

Oracle Communications Solution

UCaaS Provider

Any Cloud Service

Oracle Communications Security Shield Cloud

Communications Service Provider (PSTN)

CCaaS Provider

Enterprise domain

Oracle Enterprise Session Border Controller

Oracle Enterprise Operation Monitor

Oracle Enterprise Communcations Broker

UC/IP-PBX

Contact Center

A Trusted Partner with a Security Mindset

Oracle invests heavily in the technology and relationships necessary to remain the market leader in session border control. Technology is constantly evolving and the security landscape continues to change. Our solutions are flexible, vendor independent and support interconnection with any SIP device or service. Technology certifications from our partners give further peace of mind that our solutions are secure and reliable. Some of our formal certifications include:

- **Defense Information Systems Agency (US Government)**

- **Genesys**

- **Microsoft Teams**

- **Zoom**

We also conduct independent testing of our solutions with leading vendors. The full list of interoperability documentation is available at:

oracle.com/technical-resources/documentation/acme-packet.html

Next Steps

A vendor-neutral enterprise communications network can help you eliminate cost and complexity, increase business agility and accelerate your digital transformation.

To learn how Oracle can be your trusted partner to help you transform your legacy communications environment into a secure and scalable platform for innovation, visit:

oracle.com/enterprise-communications

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Oracle is committed to developing practices and products that help protect the environment