

Enterprise Communications Platform (ECP) revolutionizes industry services

Oracle Enterprise Communications Platform (ECP) connects devices, manages networks and enables real-time communications for the Oracle suite of industry cloud services. Built with the performance and scalability of the Oracle Cloud Infrastructure (OCI), ECP transforms vertical services with contextual information and gives industries the



ability to orchestrate, connect, and manage a new generation of cloud-based services. The platform can be used for IoT, edge, and mobile devices over public communications networks to enrich cloud services.

ECP is a communications backbone for embedding powerful Application Programming Interfaces (APIs) into OCI services to deliver real-time, secure, reliable communications for industry specific services. Like a conductor in an orchestra, ECP is a cloud-based communications platform designed to manage and secure real-time device and network connections across the entire estate and specific to each industry cloud service. An OCI service makes ECP API calls to create and control video capture, collaboration, reporting, coordinating, and connecting network endpoints, and managing and provisioning devices. ECP connections can come from a wide range of different devices supporting a variety of formats of media like voice, video, and data. ECP also provides enhanced services including conferencing capabilities, IoT device management, mobile device management, edge distributed processing, authorization, authentication, and accounting to manage and secure these endpoints.

ECP addresses Industry Challenges

High quality, real-time interactions have a direct impact on a work environment, but interactions are often limited by how much control a company has over the services they use, the network provider, and the connected end user devices:

Devices – Devices come in varying form factors and bespoke device management to keep them up-to-date and secure. The challenges facing local government, for example, include managing a diverse set of devices such as patrol cars, body cameras, and in-vehicle tablets, as well as the SIM cards in these devices; scaling the devices to meet their needs of their department; securely connecting and integrating these devices to the network; managing costs associated with these devices and the required in-house device expertise.

Businesses and organizations must manage and maintain several disparate communication devices such as video cameras, sensors, mobile devices, PCs, and tablets. Every device has their own system and set of manual processes to

Enterprise Communications Platform

Enables secure real-time communications for Oracle Cloud services by orchestrating, connecting, and managing on-premises systems with IoT, edge and mobile devices and sensors, over one or more public networks.

ECP features

- Secure, reliable network connectivity
- Integration with cloud, IoT, mobile and edge devices
- Securing the endpoints and keeping them up to date
- Distributed edge network computing
- Advanced intelligent conferencing and collaboration

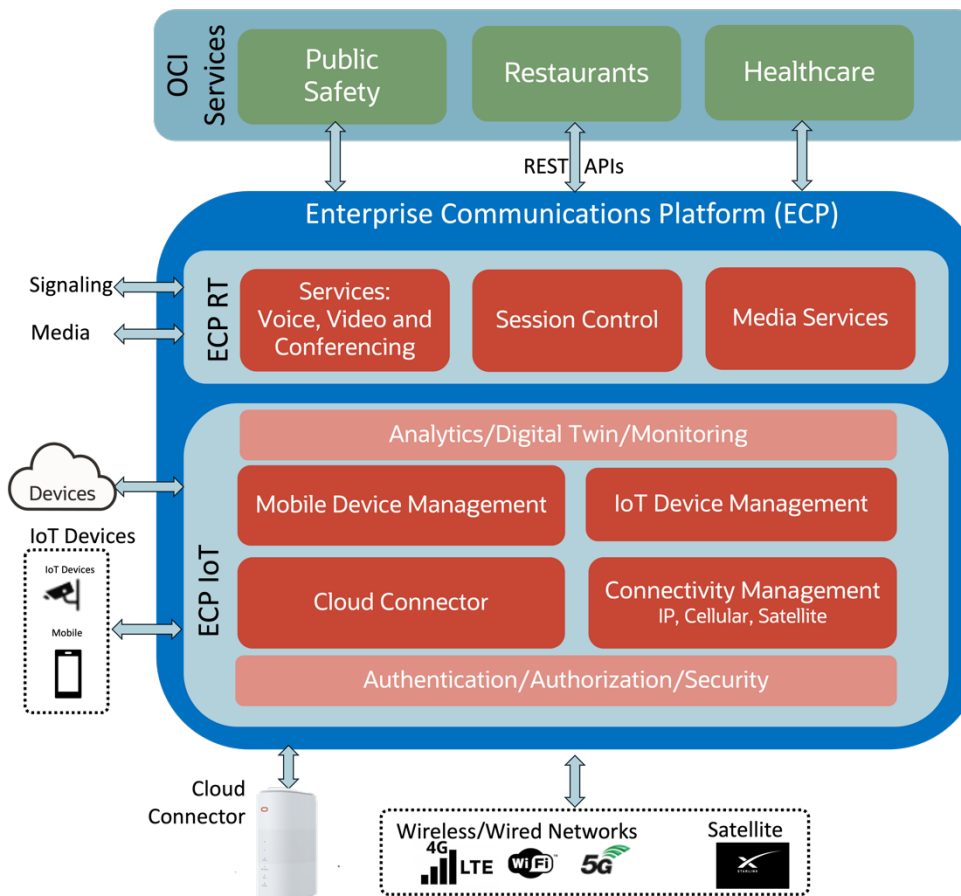
record, archive and gather data, including capturing and correlating video and audio. These manual processes and disparate systems limit the capabilities of the technology to get a complete view or to rapidly respond to any situation.

Network – Network speed and reliability must support the demands of different cloud services with varying requirements. A healthcare or first-responder cloud service requires high quality reliable connections to the cloud, where as a restaurant or retail service may only require a basic internet connection. Cloud based solutions require network connections that adapt to the demands required by the service to optimize performance. ECP acts as an abstraction layer for all network and network services needs across geographies. This supports different industry use cases in a cost effective manner and enables industries to focus on their core applications.

Cloud Services – Moving applications to the cloud has greatly reduced the IT overhead as well as offering value added services not available in an on-premises system. However, while applications are moving to the cloud, the devices, networks, and other connected services may stay on-premises or move to a different cloud. Integrating the cloud services into the network and the supporting communication services is complex, expensive, and time consuming. If cloud services are not well integrated, simple automatic processes become relegated to manual overhead processes.

ECP transforms critical communications

ECP address the industry challenges by seamlessly connecting devices through one or more networks to OCI services.



ECP Real Time

- Enables bi-directional audio, video, chat and screenshare connections
- Conferencing provides real time collaboration
- Media Services including recording and replay
- Authentication and authorization

ECP IoT

- Cloud Connector for failsafe edge connections bringing cloud applications closer to data sources
- IoT Device Management to monitor and manage IoT devices
- Mobile Device Management secures and manages Android and iOS devices
- Connectivity Management across mobile and satellite networks

Enterprise Communications Platform

ECP Real Time (ECP-RT) – The Conference function in ECP-RT enable bi-directional audio-video conferencing, chat, screenshare, recording and extendible to integrated OCI AI capabilities. A WebRTC based solution, ECP-RT provides integration of application managed through Software Development Kits (SDKs) for Android, IOS, React, JS, as well as APIs via OCI Cloud. ECP-RT secures the connections through authentication and authorization with participant/device access tokens with timebound expiration.

Oracle Cloud Connector (Edge Management) – Oracle Cloud Connector is an on-premise solution that abstracts the complexity of managing several and various kinds of devices and optimizing data transmission. These edge computing features allow for more flexibility when processing data – to eliminate time lags, decrease bandwidth, and reduce the cost of data transmission. The Cloud Connector runs on specific, industrialized edge computers that support remote firmware upgrades and application management. It can also locally manage connected IoT devices for software, maintenance, upgrades, and failures. While managing the lifecycle of the devices, the Cloud Connector plays a primary role in connecting and synchronizing Edge connected devices and data to the Oracle Cloud solution. Furthermore, its backhaul connectivity enables Oracle's industry applications customers to maximize application uptime — even during a broadband outage or non-availability of a cellular network.

IoT Device Management tracks, monitors, and manages the fleets of devices, which could number in the thousands. Device Management ensures devices work properly by securing them after they have been deployed, providing authenticated access to the devices, monitoring health of the devices, and remotely troubleshooting potential device problems. Device Management makes it easy to securely register, organize, monitor, and remotely manage large scale IoT deployments. ECP allows registration of connected devices individually or in bulk and may readily manage permissions so that device access is authorized and authenticated. At the same time Device Management collects IoT telemetry to display analytics, insights and digital twins for the deployed devices.

Mobile Device Management provides control, security, and policy enforcement over Android and iOS phones and tablets. Mobile Device Management manages the mobile device lifecycles, operating systems, applications, and integrates flexible device policies so no additional processing is required. Through the ECP portal, a customer may take actions and monitor all their mobile devices.

Connectivity Management IoT devices require connectivity, such as WiFi, ethernet, bluetooth, satellite, 4G, or 5G to operate. SIM card distribution and management is sourced through Oracle to ease IT operations, control, vendor and supply chain management. IT administrators have direct control over SIM card and satellite terminal connections, monitoring, and managing data usage. The local business or government agency does not have to source the SIM cards or satellite terminals from the carriers but only has to work with Oracle Cloud solution to manage all of the devices and the network connections. Public carrier networks such as 4G, LTE, 5G and satellite are supported in ECP. Connectivity management function supports secure, access-agnostic, connectivity services to

ECP Benefits

- End-to-end integrated solution
- Secure, reliable network services
- High performing, scalable cloud communications
- IoT and mobile device lifecycle management and digital twins
- Monitoring and alerting across device and networks ecosystem
- Device, network and services analytics and visualization
- Automatic device interconnectivity, data collection and scaling
- Ground-to-cloud bidirectional data and events
- Secure authentication and authorization

allow for IoT devices to connect to the Oracle Cloud. IoT device connections may be made directly to the Oracle Cloud or through Oracle Cloud Connector.

Connectivity management optimizes network efficiency and enables the IoT operations manager to set data transfer capabilities for specific IoT devices or get alerts about unusual data spikes. All these indicators are presented as soon as an event occurs, whether that is a network connection issue or cybersecurity breach.

Authentication, authorization, and accounting is a framework for intelligently controlling access to ECP, enforcing policies, auditing usage, and providing operational information. Authentication provides a method of identifying a user or a device. Authorization is the policy that defines what services the user or the device may access. Accounting records the authentication, authorization, and the processing that may ensue.

ECP in Public Safety

ECP provides real-time communications for emergency vehicles and emergency first responders to cloud the Oracle Public Safety Suite (OPS). Integrated with OPS, ECP transforms emergency services with contextual information providing service orchestration, reliable connectivity, and management of next generation cloud-based communications.

The OPS emergency vehicles are equipped with a comprehensive array of ECP video cameras integrated with video drone systems and ECP body-worn cameras. ECP manages and transmits all the live video streams from any remote location to the OPS central control. Whether you're a first responder in the field or an incident commander in a remote command center, ECP keeps officers well informed, ensuring smooth, real-time operations.

ECP provides instant access to real-time video feeds from vehicle and body-worn cameras and correlates with live location data to give first responders and commanders the critical insights they need to act quickly and efficiently. ECP provides connections through regional 4G/5G/LTE networks for ultra-secure, high-speed connectivity, ensuring seamless data streaming to OPS or through satellite connections to securely manage and ensure communications in remote or poorly connected areas.

ECP elevates situational awareness and decision-making to unprecedented levels in the heat of the moment. Seconds count and details matter, so officers have an immediate and comprehensive view of all relevant video feeds and incident information available on the local OPS tablet or edge computer. ECP integrates the communication devices and video/audio streams to ensure smooth, real-time operations, giving mobile teams access to live video feeds from body-worn cameras and vehicle locations. These vital insights empower first responders and commanders to stay ahead of situational challenges, cover more ground, and save more lives. Direct Connectivity to Oracle's Dispatch Command Center streamlines coordination, making it easier than ever to manage and organize incidents and ensure rapid response. For more information, see oracle.com/government/state-local/public-safety.

ECP in Local Government

- Situation Awareness - real-time collaboration with video, mobile, PC, and tablets.
- Failsafe networking - wireless, wired, and satellite networks for connections anytime, anywhere
- Device Management ensures devices securely work providing authenticated access
- Command and Control for mission critical control, collaboration and dispatch function.

ECP powers a new generation of cloud services for IoT and connected devices

ECP is a core set of cloud and edge services that connects and manages devices to OCI services. ECP seamlessly blends voice and video channels for real-time, secure communications to provide an exceptional user experience for OCI services. The platform offers enhanced services to Oracle cloud solutions including connectivity management, conferencing capabilities, IoT device management, mobile device management, edge distributed processing, authorization, authentication, and accounting. ECP provides the secure, real-time communications required for industry services to connect any number of devices at any location whether they use WiFi, ethernet, bluetooth, satellite, 4G, or 5G for connectivity.

Supported Interfaces

Device to cloud connectivity protocols	MQTT over SSL HTTPS
Supported IOT message data formats	JSON Binary
Supported platforms for Oracle IOT client software	Java SE 5 and above C/C++ (POSIX, Linux) iOS Android Python JavaScript
Device Connectivity	Cellular WiFi
Cloud Connector (Edge) Connectivity	WiFi Ethernet USB MQTT over SSL Modbus Satellite
Certified Device Connectivity via Edge	USB

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